

EUROPEAN NEWS

Talks with Kohl fail to bridge differences over Nato modernisation Thatcher demand on nuclear arms

By David Marsh in Frankfurt

MR MARGARET THATCHER, the British Prime Minister, yesterday signalled to the West German Government that she expects a commitment by Nato in May to introduce new short-range European nuclear missiles in the 1990s.

At a news conference in Frankfurt with Chancellor Helmut Kohl, she pointedly warned of the consequences which could ensue if Nato made the "wrong decisions" about bringing in new weapons systems. This could jeopardise "the security of future generations up to the end of the century," she said.

Mrs Thatcher stressed that she and Mr Kohl had found "an enormous measure of agreement" at their Frankfurt talks. But she underlined the need for "constancy and consistency" in maintaining a firm

siles in the 1990s by new 450km-range weapons.

Yesterday they repeated the formula arrived at in the Nato summit in Brussels last year on the need to keep weapons systems "up to date where necessary". They agreed to meet again in end of April at Mr Kohl's home in Ludwigshafen to try to arrive at a compromise.

Although diplomats from both sides said they were optimistic that London and Bonn needed "no instructions" from abroad in keeping up its guard against the Soviet Union.

The two leaders and ministers from both sides also discussed general prospects for Soviet reform policies, the expansion of the European community, and developments in southern Africa and the Middle East. Mrs Thatcher said Bonn and London both supported Mr Mikhail Gorbachev's

defence".

This appeared a careful way of indicating opposition to West German wishes to delay the Lance decision. Bonn instead wants to start negotiations on the need to keep weapons systems in the short-range weapons in central Europe conceived as a particular threat to Germany.

Asked about West Germany's commitment to defence, Mr Kohl said Bonn needed "no instructions" from abroad in keeping up its guard against the Soviet Union.

The two leaders and ministers from both sides also discussed general prospects for Soviet reform policies, the expansion of the European community, and developments in southern Africa and the Middle East. Mrs Thatcher said Bonn and London both supported Mr Mikhail Gorbachev's

reforms but would judge him "not by words, boldness and courage - however important they are - but by results."

Over monetary matters, Mrs Thatcher made clear her deep misgivings about any weakening of national political sovereignty which could result from a move towards European monetary union. So far Bonn had done very well in staying outside the exchange rate mechanism of the European Monetary System, she said. Her opposition to full membership had not changed.

The Delors committee report now being drawn up would have to set out "with stark clarity" the consequences of EC countries giving up a multilateral body sovereignty over questions like interest rates or structural policies.

Ethnic tensions heightened by plan to raise Estonian flag

By Quentin Peel in Moscow

A PLAN to hoist the blue, black and white-striped national flag of Estonia instead of the Soviet red flag from the battlements of government buildings on Friday has sparked renewed tension between native Estonians and Russian-speakers in the tiny Baltic republic of the USSR.

A two-hour general strike has been called for today by the Inter-Movement, a group of Russian-speakers, to protest against the replacement of the Soviet flag, and the decision by the Estonian Government to celebrate January 24 as a holiday to commemorate national independence in 1918.

The leaders of the movement, set up to counter the revival of Estonian national-

ism represented by the republic's Popular Front for Perestroika, have also called on their members to picket the government buildings in Tallinn on Friday to prevent the flag being raised on Tall Hermann tower above the city.

The threatened backlash has caused heartsearching in the Estonian government, which had already decided to declare Friday a republican holiday. A meeting to discuss how the flag should be raised was abandoned without a decision on Monday, and will be resumed today.

Whatever their decision, the first legal celebration of independence - always described as a "bourgeois dictatorship" by official Soviet publications

- seem certain to bring tens of thousands on to the streets of Tallinn.

It follows another massive demonstration of nationalist sentiment in the neighbouring Baltic republic of Lithuania last week, when an estimated crowd of 200,000 gathered in the town of Kaunas, the former capital of independent Lithuania, to mark their independence day.

Ethnic relations in Estonia are worse than in Lithuania, mainly because there is a higher proportion of Russians in the republic. Some 40 per cent of the 1.5m population is Russian speaking, as a result of heavy immigration since 1940 when the Red Army re-established Soviet rule.

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Shoddy work 'led to quake toll'

By Quentin Peel

A TOP Soviet official has confirmed for the first time that shoddy construction was a prime factor behind the huge death toll in the December earthquake in Armenia.

The disaster claimed at least 25,000 lives, and left more than 500,000 homeless, as modern blocks of mass-produced flats collapsed into rubble.

Total cost of the tragedy is now estimated at some Rubles 10bn (£9.1bn), with more than one in 10 homes in Armenia destroyed.

The admission of shoddy construction, already identified

by the Soviet press as an important cause of the toll, was made by Colonel-General K. Vertelov, deputy head of the state commission for quality control of design and housing construction.

His experts examined in detail a standard frame-panelled nine-storey apartment block in Leningakan, the largest city devastated by the earthquake, built in 1978.

The examination raised the question: how did the building manage not to collapse in the course of construction? He said.

The building showed crude violations of building regulations, with more than half the concrete ceiling slabs "unsuitable for an earthquake risk area". The quality of the welding work "leaves much to be desired".

He warned that even in the huge reconstruction effort, building regulations are being ignored. An eight-floor hotel in Dilzhan, already 70 per cent completed, had been discovered to have "crude violations of the rules and regulations for seismic construction".

The verdict, which was

expected to anger the West, followed Eastern Europe's first important political trial since the conclusion last month in Vienna of the European security conference in which member nations promised to respect human rights.

The state prosecutor had called for a one-year prison term. Mr Havel's lawyer said he would appeal.

Seven other opposition

members also went on trial at another court accused of "hoaxing", but were not sentenced yesterday.

The authorities said 53 people arrested after the mass demonstrations in Prague would be put on trial.

Mr Havel, who is a co-founder of the Charter 77 human rights movement, said in his defence speech that in his lifetime only three Czechoslovaks had been found guilty of being "anti-socialist".

Mr Slansky, Alexander Dubcek and Gustav Husak.

The first was executed as an alleged Western spy, the second deposed after the Soviet invasion of 1968 and the last, who served in a Stalinist prison in the 1950s, is Czechoslovakia's President.

"A fourth has joined their ranks, Charter 77."

An ashened Mr Havel held his head high and smiled timidly as he was rushed past cheering supporters outside the courtroom by two uniformed guards.

The Communists at present rule out co-operation with Pasok under Mr Papandreou's leadership. The Premier is blamed for the climate of corruption in the public sector and a post-1985 conservative shift in economic and foreign policy.

The Eurocommunists won 9.9 per cent in the 1985 election. In joining forces this time the two parties hope to achieve a score greater than the sum of their parts, by

attracting left-wing voters disaffected with Pasok who are currently registering as undecided in the polls.

The Socialists' popularity has plunged in recent months as a result of the Koskotis banking scandal and the illness and extramarital relationship with a much younger woman of Mr Andreas Papandreou, the Prime Minister.

While the conservative New Democracy party is expected to come first next June it is not sure of a parliamentary majority. Failure to do so would open the way for a coalition government, either between the Communists and Pasok radicals or New Democracy and Pasok moderates.

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Tighter credit squeeze looms in Spain

By Peter Bruce in Madrid

THE SPANISH Government might have to augment its credit squeeze following a one point rise in inflation in January. Mr Mariano Rubio, the Governor of the Bank of Spain, warned yesterday.

Speaking at a parliamentary committee, he said that "an explosion" in inflation would make it necessary to adopt stabilising measures quickly to stop further price increases. Making it clear that the Bank was considering further monetary measures, he said a new package would have serious consequences for its creation.

The Government has been shocked by January's price increases. It had forecast 3 per cent inflation for the whole year. New figures show that the broad money supply measure increased some 12 per cent in January, well above its targeted limit, and that private and public credit grew 22 per cent and some 12 per cent respectively.

Greek Communists look to form broad left coalition

By Andriana Ierodiakonou in Athens

GREEK OPPOSITION Communists, looking forward to a boost in their strength in the general election next June, have begun to woo elements within the ruling Socialist party (Pasok) for the possible formation of a broad left-wing coalition Government after the vote.

"With whom do you want to co-operate, left-wing and democratic members of Pasok? With conservatism or with the left and progress?" Mr Leonidas Kyros, leader of the small Greek Eurocommunist party (EAR), said in speech on Monday night. He was speaking at the first mass rally of the electoral alliance formed last autumn between EAR and the pro-Moscow Communist Party of Greece (KKE).

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A country ramble lifts the tedium for Sweden's jail 'clients'

Sara Webb takes a stroll through a prison system where the stress is less on punishment than on preparing for freedom

A GROUP of prisoners in a top-security Swedish jail were recently shown a television documentary about life in a British prison. They were so appalled by the brutality and organised gangs that they refused to watch the whole thing.

Most Swedish jails would put a British students' hall of residence to shame. They don't smell, are cleaned by paid staff rather than by the inmates, and a visitor may be a little baffled as to which of the jeans-clad men in the corridors are warders and which prisoners, or "clients", as they are often referred to.

Of course, Grubberget is immensely popular. Mr Rolf Johansson, the head warden, can only accept 1,100 of the 2,600 applications each year. Prisoners stay for one or two weeks, and exemplary clients are allowed to come three or four times a year.

A Swedish journalist friend used to joke that the only way he would ever find time to write his book would be to commit a crime so he could spend a few years in the peace and quiet of the clinic.

His everyday needs would be catered for in either a room of his own or a self-contained apartment shared with four

inmates, plants, a TV, radio, stereo (up to three pieces of electrical equipment are allowed) and the option of taking occasional holidays with his family in the Swedish prison's holiday camp near Gävle.

Sweden claims to be the only country with a holiday centre for long-term prisoners, with saunas, communal games centre and a barbecue hut.

The little village of Grubberget was once home to forest labourers who worked on the surrounding land. There is no surrounding fence and prisoners are free to go for walks in the forests up to 10 miles away.

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Grubberget's alumni include Sweden's sauna murderer (who

locked his wife in a sauna and turned the heat up until she cooked) and Miro Baresic, the Croatian terrorist who killed the Yugoslavian ambassador to Stockholm in 1971. The majority are drug offenders (maximum sentence 12 years) or have committed violent crimes, although no prison warden is supposed to divulge someone's crime as this would constitute

a breach of trust.

The week I visited was described in the holiday camp brochure as winter sports week. The prisoners had cross-country skiing lessons during the daytime, and then piled into a bus at 4 o'clock to drive to a nearby mountain for floodlit sledge sailing.

"We like clients to learn basic skills like cooking and dancing," said Mr Johansson. Ballroom dancing apparently is one of the most popular courses, though the eight-hour day is filled out with keep fit classes. The emphasis on keeping fit in Swedish prisons means most of the men look like a cross between Schwarzenegger and the Green Giant.

The aim is to help prisoners use their spare time effectively "because that is where they can get into trouble when they are free", says Mr Johansson. So nature rambles, bicycling, canoeing, rowing, and salmon fishing in the surrounding lakes are encouraged - but

not hunting, even though there is plenty of game in the area. The house rules are no weapons, no drugs or alcohol, though the occasional bottle has been known to turn up in the grounds once the snow has melted.

There are also a lot of religious courses. Christianity is especially popular with those who have killed as they start to think about the meaning of life," says Mr Johansson.

Prisoners receive free food and travel expenses plus SKr300 a week in pocket money. Some prisons are experimenting with a system whereby inmates receive the market rate for working which helps them to pay off their debt to the state (for example paying back the money they made on drugs dealing) and improve their finances before release so that there is less temptation to return to crime.

The board claims the recidivism rate is about 50 per cent (Britain's, by comparison, is about 55 per cent) although there has been more success

with special projects such as the showcase prison at Oesteråker for drug offenders.

Mr Johansson is choosy. "I've only known 10 problem cases in four years here. There aren't very many escapes - most prisoners would have had the chance on the train up here when they travel unaccompanied. Anyway, the prisoners know they have to pay to lose like the right to visit friends and to see their families if they misbehave."

Of the 42,243 furloughs granted in 1987/88, 4 per cent were abused. Altogether there were 1,127 escapes from jail in a country with an average prison population of 3,413 and where about 15,000 people are sentenced each year.

In 1987 Stig Bergling, a convicted spy, walked away during a weekend visit to his wife in 1987 and has not been seen again. The incident led to the resignation of the Justice minister and an attempt to clamp down on furloughs.



Monner pivotal

Italians see obstacles to monetary union in EC

By John Wyles in Rome

THE unanimous support of Italian opinion leaders for European monetary union was highlighted yesterday when central bankers, industrialists, financiers and politicians argued that the single European market could not achieve its aims without steady progress towards monetary integration.

But there were also signs of sober realism about the obstacles, not least in Italy where deteriorating public finances have been highlighted yesterday when the CDU's chances of success in the 1990 national elections and might even pave the way to such a coalition in Bonn. Berliners like to point out that when the CDU displaced the SPD from city hall in 1981 a similar change followed in Bonn one year later.

Watertight

Mr Monner is well aware of his pivotal role in West Germany's newly-fluid politics. That is why he will take his time trying to establish a watertight coalition agreement with the AL.

Mr Monner, a conservative

Social Democrat, does not es-

pecially like the idea of govern-

ing with the AL.

That is partly because there

is such enthusiasm for a "red-

green" coalition inside the

Thrifts bail-out will cost \$126bn says Darman

By Lionel Barber in Washington

THE US government rescue of savings and loan institutions or thrifts, is expected to cost \$126.2bn over the next 10 years. Mr Richard Darman, the budget director, said yesterday.

In his most explicit statement to date, Mr Darman told the Senate budget committee that the net cost of the bail-out to tax-payers would be \$33.9bn. The balance would be met by the S&L industry and \$60bn of bond sales.

Mr Darman — in his first Congressional appearance since President Bush presented his fiscal 1990 budget — came under fire from Democrats who accused the Administration of failing to provide adequate detail on its spending plans. One Democrat senator called it a "phantom budget".

Mr Darman faced criticism when he repeated earlier estimates that the Government would only spend \$1.9bn on a thrift rescue in fiscal 1989. In this fiscal year, the Administration intends to spend \$100bn in certain programmes "must not be assumed to be immovable".

He also defended the Administration's economic growth projection of about 3.25 per cent, noting that since 1983 real growth in the US economy has averaged 3.25 per cent in a period that included eight recessions.

Bush says allegations against Tower disproved

By Lionel Barber

PRESIDENT Bush yesterday gave a ringing endorsement to Mr John Tower, his controversial choice to be US Secretary of Defence.

The allegations against him simply have been gunned down," Mr Bush said after receiving a 140-page FBI report. His comments are part of a solid campaign by the White House to secure Mr Tower's nomination by the Senate Armed Services Committee.

Members of the committee received the document yesterday and Senator Sam Nunn, the Democrat chairman, intends to hold a vote on the nominee later this week.

Mexican debt team on European visit

By Robert Graham

MR Pedro Aspe, the Mexican Finance Minister, arrives in London today as part of a five-day visit to European financial centres to set out the debt strategy of the administration of President Carlos Salinas de Gortari.

The Mexican Government is understood to be seeking a credit arrangement to cover the entire six-year-term of President Salinas, who took

office last December. No figure has been mentioned but in Mexico City reports suggest the Government is looking for about \$7bn a year.

Mr Aspe is accompanied by Mr Angel Gurria, Under-Secretary for International Finance, and Mr Miguel Mancera, governor of the central bank, two key figures in previous negotiations on Mexico's \$107bn foreign debt.

CHANNEL ISLANDS

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FINANCIAL TIMES
EUROPE'S BUSINESS NEWSPAPER

Alfonsín moves to placate Argentine exporters

By Gary Mead in Buenos Aires

THE Argentine Government yesterday announced further economic measures aimed at helping it limp through to elections in May with the continued support of industrialists.

The Radical Party Government said it would continue three exchange rates — the "commercial", "special" and "free". The commercial and special rates would be deviated downwards by 8 per cent above the "commercial".

Earlier, Mr Bush met Congressmen and senators to get buy-in for the plan. But Congressman León Panetta, the House Budget chairman, said after the hour-long session that "some changes" were still missing. Other Democrats said the meeting did not discuss detail, only "process".

One of the main difficulties surrounds the Administration's proposal for a "fiscal freeze": defence spending would be frozen in real, inflation-adjusted terms, while other social-programmes would either be held to their current nominal levels or raised slightly — with the Democrats asked to share in the setting of priorities.

Mr Darman warned Democrats that to cut the 1989 deficit to \$100bn certain programmes "must not be assumed to be immovable". He also defended the Administration's economic growth projection of about 3.25 per cent, noting that since 1983 real growth in the US economy has averaged 3.25 per cent in a period that included eight recessions.

Representatives of the two sectors yesterday accepted a package which improves their earnings by allowing them to retain a greater percentage of their exports through the free-floating exchange rate. That rate yesterday hovered around 25 australis to the dol-

lar, almost 80 per cent more than the lowest — or "commercial" — rate of exchange. The "special" rate is pegged at 25 per cent above the "commercial".

Farmers are now permitted to transact 20 per cent of exports in the free-floating exchange rate, the remaining 80 per cent via the "commercial". For manufactured exports, 20 per cent could be exported at the free-floating rate, 20 per cent at the "special" and 50 per cent the "commercial". This alteration implies a devaluation of almost 14 per cent for industrial

exports and 15.7 per cent for agricultural product exports.

The Government also promised to introduce a sliding scale for both sectors, whereby an increasing volume of their exports would gradually be permitted to be transacted at the free-floating rate.

Until February 7 this year the agricultural sector was compelled to transact all exports at the "commercial" rate. For every US dollar earned by the sector it received

roughly 80 per cent fewer australis than a free exchange market would have brought.

Government pocketed the margin to alleviate a chronic fiscal deficit problem.

Industrialists fared better, as the Government last August managed to achieve a price-restraint agreement with its more influential spokesmen. That agreement, aimed at keeping inflation below the symbolically-alarming 10 per cent monthly barrier, was bought by government at a price — permission for a greater volume of exports via higher exchange rates than

that granted to farmers.

The question is whether the margin of economic stability now achieved will last long enough to improve the prospects for the Radicals — lagging 10 per cent in opinion polls — for May 14.

Unified exchange rates in November is a tasty carrot to industry, perhaps compensating for the Government's economic policies to date. The stick waved by President Alfonsín is the spectre of the return of Peronist government and its likely economic effect — increased government intervention.

Indian warriors conduct a ritual public relations exercise

A DRAMATIC face-to-face confrontation between a club-wielding Indian warrior and an executive of Electrônorte, the Brazilian electricity utility, brought the passionate conflict over a big Amazon dam project vividly to life yesterday, writes Ivo Dawmaw in Altamira.

The incident came in front of 2,500 tribesmen, ecologists and onlookers in a community hall in Altamira, in Pará state, a few miles from the proposed 11,600MW dam site threatening the Caiapó tribe's homeland.

Observers unfamiliar with Indian etiquette thought for a moment that this unprecedented multi-tribal protest meeting might end in a bloodbath.

Mr José Antonio Muñoz López, Electrônorte's planning director, had just begun a somewhat plodding defense of the project when an older warrior called Parau-Ka lunged at his feet, charged the platform and wielded his club close to the executive's face.

In a speech later translated, he shouted: "We don't understand this energy. We live off the food of the forest. You want to build this dam but you didn't consult us. I refuse to accept it."

Seconds later, Tol-a, a bare-breasted tribeswoman armed with a machete, rushed forward, slashing the air inches from the director's cheeks. "You are telling a story worth nothing," she screamed. "You do only what interests you."

The protests sent a surge of excitement through the crowded hall, with some of the braver campaigners charging forward while others recited Mr Muñoz, to his credit, kept low cool.

It was left to Chief Paulo Paiakan, whose worldwide campaign has turned the five-day pow-wow into an international media event, to calm nerves and tempers. The threatened violence was only ritualistic, he explained, to the disappointment of some, but the relief of many.

From then on, the conference, punctuated by war dances, whoops and chants, went the organisers' way. With an articulateness and emotion

unattainable by even the finest public relations companies, Indian after Indian steadily undermined Electrônorte's case in a series of impassioned and dignified speeches.

All Mr Muñoz's assurances that the

dam project would be limited in its effects were greeted with resonating howls of disbelief and the rattling of arrows by the warriors who were bedecked with feathers and paint.

"Any decision to flood Indian lands now has to be approved by Congress," he concluded. There was a prolonged, indescribably sceptical "Wooooooo".

In particular, the Caiapó were

incensed over the decision to give the

dam the Indian name of Cararao. A

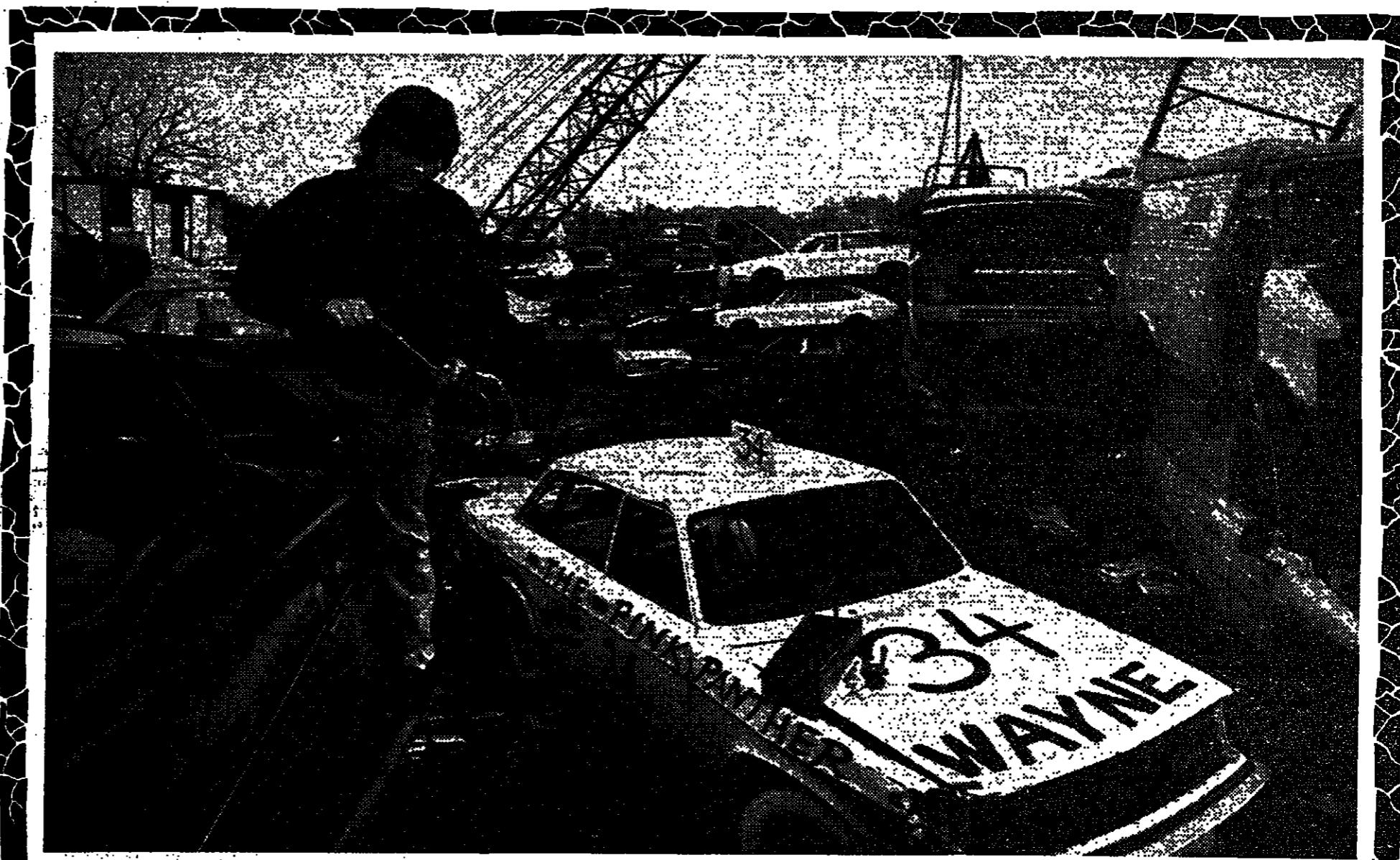
corruptive warrior, called Colonel

Fondo, wearing a head-dress that looked like a feather duster, graphically revealed that this name was, in fact, a war cry, signifying, with embarrassment and derision.

But the most moving speech came not from a Caiapó but a Xavante chief. "We have not come to hear about new studies; we want the project cancelled here and now," he said.

"We are the real Brazilians and we have been here for centuries and centuries. You must learn to respect us."

That argument may yet be ignored but yesterday, for Mr Muñoz as much as for those of us clearing the lumps from our throats, it was a lesson well learned.



ANOTHER YOUNG OFFENDER ENDS UP ON THE SCRAP HEAP.

All too often, a teenage car fanatic ends up a teenage car thief.

A passion for four wheels becomes an excuse for stealing them.

A far better outlet for that passion is banger racing. By giving this youngster the chance to repair and race old cars, he's not tempted to steal new ones.

The chances are, it'll stop him from slipping into a life of crime.

The first banger racing project for young offenders was set up in

Deptford 10 years ago.

Since then, it's given over 400 youngsters the chance to get back on the straight and narrow, via the racetrack.

There are now forty or more similar schemes all over the country.

Their success owes a lot to the support of local businesses. Both financially and in kind.

In Deptford, for example, a scrap dealer gave discounts on parts, and a lorry hire firm loaned out its trucks at special rates.

Of course banger racing is just one way of steering teenagers away from crime.

Many companies have taken the initiative in other directions.

Two high street banks have sponsored a Saturday morning

activities club. (Which offers everything from weight training to computer training.) Sponsored by local advertisers, a bus company is giving youngsters cheap fares to and from events.

Elsewhere, a bank joined forces with the police and the local education authority to set up a street football competition.

Many more companies could do something to help.

For more information about how to crack crime, telephone or send this coupon for your free copy of the full colour Crime Prevention Handbook. It contains over 100 ideas on how to help protect your family, your property and your community.

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CRIME
TOGETHER WE'LL CRACK IT

Practical ways to crack crime

OVERSEAS NEWS

HK Basic Law draft approved in Peking

By John Elliott in Hong Kong

A SECOND draft of the Basic Law – or mini constitution – which will govern Hong Kong when it reverts to Chinese sovereignty in 1997 was approved yesterday by a standing committee of China's National Peoples Congress in Peking.

The plan will cause considerable controversy in Hong Kong where there are divided views over the speed of the introduction of democracy, including universal suffrage for the election of a Legislative Council and chief executive who will run the region after 1997.

The draft proposes a programme which is far too slow for liberal campaigners in Hong Kong because universal suffrage would not be introduced before the year 2012 at the earliest.

The draft is expected to be published in both Peking and Hong Kong within a few days, possibly next Monday, and will then be the subject of five months intensive consultation lasting till the end of July. Later it will be prepared in its final form for promulgation by the People's Congress early next year.

No changes have been made by the standing committee to the draft, which was drawn up by a committee comprising representatives of China and leading people from Hong Kong. But three members of the 123-member committee either voted against the draft or abstained yesterday.

Details of the coming months' consultations will be worked out within the next few weeks, including a possible public opinion poll on Hong Kong's new political system.

Boat-people may be forced to go home

By John Elliott in Hong Kong

SIR DAVID WILSON, governor of Hong Kong, is expected to warn Mrs Margaret Thatcher today that Hong Kong may eventually have to introduce forcible repatriation of Vietnamese boat-people who do not qualify as refugees, even if this triggers an international diplomatic storm.

Forcible repatriation has been established Hong Kong policy since last June 16 when the colony changed its stance on the Vietnamese boat-people and said that all those arriving after that date would risk forcible repatriation.

Sir David reiterated the policy when he arrived in London on Monday for a week of government consultations. "It is absolutely necessary that we should go ahead with all parts of our policy including the mandatory repatriation of all who are not refugees to Vietnam," he declared.

But the policy is inoperable because Vietnam is only willing to take back volunteers – the first 80 of whom are to fly home next week. The Hong Kong and UK governments hope that an international conference to be held soon on the problem will produce fresh initiatives.

There are now a total of about 25,700 boat-people in Hong Kong, 10,700 of whom have arrived since last June, and therefore are likely to be classified as illegal immigrants qualifying for forcible repatriation.

Shevardnadze discusses peace policy

By Tony Walker in Cairo

MR Eduard Shevardnadze, the Soviet Foreign Minister, held further discussions yesterday with Egyptian officials on ways of overcoming Israel's opposition to an international peace conference.

Mr Shevardnadze, who will meet Mr Moshe Arens, his Israeli counterpart today, focused in his talks with the Egyptians on procedures that would both facilitate the beginning of peace talks and deal with Israel's refusal to negotiate with the Palestine Liberation Organisation.

This refusal, allied with an unwillingness by the Likud bloc in Israel's coalition to countenance territorial compromise in the occupied West Bank and Gaza, is the main obstacle to a resumption of a genuine peace process.

Moscow is trying to find a formula that would help overcome Israel's objections to joining a peace initiative under UN auspices.

In Damascus on Saturday, Mr Shevardnadze unveiled a three-point plan that called for the establishment of a UN Security Council-sponsored preparatory committee to help organise an international conference within nine months attended by all parties to the dispute, including the PLO.



MR Eduard Shevardnadze, the Soviet Foreign Minister, at the pyramids near Cairo yesterday

Egyptian officials say that arriving at a mechanism that would entice the Israelis into serious negotiations is a preoccupation of this week's discussions.

But they also recognise that little progress can be expected until the US lends its weight to the process.

Mr Shevardnadze will also meet Mr Yassir Arafat, Chair-

man of the PLO in Cairo today several hours after his talks with Mr Arens. Both meetings will take place at the Soviet embassy.

This will be the highest level meeting between the PLO and the Soviet Union since Mr Arafat proclaimed an independent Palestinian state last November.

Mr Arens made it clear both

before and after his arrival in Cairo that Israel was not about to drop its longstanding refusal to deal with the PLO which it describes as a terrorist organisation. Abandonment of this position would require an almost convulsive political change in Israel.

Mr Shevardnadze will also

convince Mr Arafat that the US would be happy if the French president avoided taking this step.

"All attempts by Europe or any nation in the world to reinforce the prestige and importance of Arafat and the PLO are detrimental to the cause of peace," he said.

Mr Shimon told *Le Figaro*: "I

Shamir hard line may sour trip to Paris

By Andrew Whitley in Jerusalem

ISRAEL'S unbending opposition to the Palestine Liberation Organisation and to the holding of an international conference on the Arab/Israeli dispute, seems likely to sour the atmosphere of a three-day visit to France by Mr Yitzhak Shamir, the Israeli Prime Minister.

Returning yesterday to Paris, where he lived for many years as the European chief of the Mossad intelligence agency, Mr Shamir acknowledged that the subject of France's blossoming relations with the PLO was bound to come up in his talks.

The Israeli leader, on his first official trip abroad since being reappointed in December as head of the coalition government, met Mr Michel Rocard, the French Prime Minister, yesterday and is scheduled to meet President François Mitterrand today.

In a downbeat assessment of prospects for the trip, before leaving Tel Aviv, Mr Shamir said he would "try to get a certain convergence of views about prospects for peace". He did not hold out any hopes of convincing President

Mitterrand to abandon a proposed meeting with Mr Yassir Arafat, the PLO leader.

Condemning Mr Arafat as a right-wing Israeli Prime Minister described the PLO to the French daily *Le Figaro* as "a very big obstacle to peace."

Mr Shamir told *Le Figaro*: "I would be happy if the French president avoided taking this step."

"All attempts by Europe or any nation in the world to reinforce the prestige and importance of Arafat and the PLO are detrimental to the cause of peace," he said.

French officials have said they are examining the possibility of an encounter between President Mitterrand and Mr Arafat "in a neutral country".

Israel's diplomatic efforts are currently aimed at blunting the international perception that the Jewish state is itself becoming an obstacle to the opening of peace negotiations.

To that end, new formulas aimed at skirting the proposed international conference have been aired in meetings in Cairo, London and, now, Paris.

Canberra's air policy heads for a spell of turbulence

Australia's air services are long overdue for a shake-up, argues Chris Sherwell

PITY the unfortunate air traveller in Australia. Things could hardly get worse than they have this week.

On Monday all flights were grounded through a lightning strike by the nation's pilots. Unhappy about their pay prospects, they decided against following the customary route of conciliation and arbitration and stopped work. Disgusted passengers shortened their holidays, rearranged business trips and quietly fumed.

Yesterday chaos returned. Air traffic controllers at Sydney airport, demoralised by their conditions of work, decided not to work overtime. The result was that only a few aircraft could land or take off each hour. Flights all over the country were badly delayed or cancelled.

Even in "normal" weeks, passengers have good cause to be irritated. Australia's "two airline policy" sees to that. The policy fixes fares on the two domestic carriers, and at an extravagant level so that, regardless of the airline, it costs close to \$31,000 (\$460) for a return flight from Sydney to Perth, and \$260 return to nearby Canberra.

Incredibly, these fares have risen as the price of aviation fuel has fallen. They mean Australians find it more difficult to see their own country than foreigners who use cheap stopovers on Qantas – an airline which Australians can only use when flying abroad.

High fares also produce handsome profits. The state-owned Australian Airlines last month reported a 23 per cent jump in interim earnings.

Ansett, jointly owned by Sir Peter Abeles' TNT group and Mr Rupert Murdoch's News Corporation, does not publish figures, but recent comments from both companies in their interim results confirm the airline's importance to them.

The "two airline policy" also makes for odd scheduling. Australian and Ansett often fly at identical times between two locations, yet on the busiest Melbourne-Sydney route there is no shared shuttle.

Worse, they do not fly when you might expect: the last flight to Sydney out of Canberra, the nation's capital, is at the late hour of 7.20pm.

Fortunately, the policy is soon to end. But it is far from clear what exactly is to replace it. As an issue affecting the flying public, however, it has been overtaken by the problems of Sydney airport.

The biggest difficulty is that Sydney's radar system is inadequate and congestion is growing to frightening levels. The air traffic controllers say they cannot do their job properly, and it is how a routine expectation that flights will neither leave nor land on time. The problems are compounded by a night-time curfew, which creates a enormous rush of international flights.

The terminals can be just as bad. The only "mass" transport system in Sydney is a bus service. Businessmen who use taxis to get into town must expect to wait in an inefficient queuing system, and to share cabs with other passengers without any fare discount.

At the international terminal, check-in arrangements are lamentable for those departing. For those arriving, especially in the morning, exasperating hold-ups at customs and immigration are the norm. Fortunately, this too will change with expansion of the building and its facilities.

Public debate has now focused on the question of whether to build a third runway at Sydney or a new airport at a remote site known as Badgery's Creek. Looking at the abject failure to deal with Sydney's problems – at enormous cost to its image and to the country's tourism prospects – it is scarcely imaginable that a debate is necessary.

But that is not to reckon with the politicians, who have put off deciding the issue for more than a decade. The Labor party, federal government, with key members holding seats in airport-affected constituencies, appears determined not to build a third runway, and is marshalling formidable, populist arguments against it.

The Sydney business community, egged on by the Liberal state government, has begun organising itself in response, ridiculing a government claim that a functioning international airport could be proposed new site and warning of the costs in tourism and declining safety standards. It is a battle which will not be decided quickly.

Kabul regime shows arms find

By Our Foreign Staff

THE Afghan Government displayed a huge cache of arms and explosive devices it says the Moslem rebels had planned to use to attack buildings and city bazaars in Kabul yesterday, the ninth anniversary of a big protest against the Soviet-backed government in the capital.

Afghan Foreign Ministry officials took journalists to the headquarters of Khad, the Soviet-style secret police, where they produced a collection of weapons, grenades, rockets and electronic circuit testers with markings indicating they were from the US, Britain, Egypt, Sweden, China and Italy. Officials said the unarmed weapons and devices were made in Pakistan which supports the Mujahideen resistance fighters.

About 250kg of explosives was found with the weapons in

a well in the east of Kabul, a Khad spokesman said. He added that three men had been arrested and had confessed to being guerrillas of the group led from Pakistan by Mr Gulbuddin Hekmatyar, one of the most extreme fundamentalist leaders.

Four rockets were killed at Kabul yesterday killing one person but the city was otherwise generally quiet and soldiers could be seen relaxing on their armoured personnel carriers in the bright winter sunshine.

The protests on February 21, 1980, less than two months after the Soviet military invasion of Afghanistan began with people shouting the Moslem slogan "Allah-o-Akbar" (God is great) from the rooftops and the streets. Security forces opened fire. Reports of the total death toll varied, but dip-

lomats said it was at least several dozen.

The city of 2.5m had been awaiting the anniversary yesterday with some trepidation amid rumours that the resistance was planning to mark the day with a spectacular attack. The bazaars were noticeably quieter than usual and some shops were closed.

In Islamabad, the Pakistani capital, Afghan rebels tried a new tack to overcome their divisions on the composition of an interim government to replace the Soviet-backed regime of President Najibullah in Kabul.

After 10 days of a shura, or religious consultative council, marked by quarrels and walk-outs, the seven Mujahideen parties based in Pakistan set up a committee of 14 to work to draw up a list of minis-

Kampuchea talks end in failure

A SECOND round of multilateral peace talks on Kampuchea ended without any new agreements yesterday after negotiators failed to bridge major differences among the warring factions.

AP reports from Jakarta, Indonesia's Foreign Minister Ali Alatas, who organised the three days of talks at a Jakarta hotel, said further discussions would be needed.

A "consensus statement"

cited differences among the four factions, notably on the establishment of an interim quadripartite authority of national reconciliation under Prince Norodom Sihanouk.

Jordan hit by a shortage of foreign exchange, is seeking to reschedule some of its \$6bn foreign debt, Mr Zeid al-Rifai, the Prime Minister said, Reuters reports from Amman.

Mr Rifai said Jordan's foreign debt was just under \$6bn, with service payments of about \$300m a year. A World Bank team in Amman arranging a structural adjustment loan.

The parallels with Washington's shuttle diplomacy of the 1970s and 1970s should perhaps not be exaggerated, but it is a measure of the changes that have occurred in the conduct of Soviet foreign policy that Mr Shevardnadze is able to range freely in a region that would have treated such a mission with great suspicion until very recently.

The Shevardnadze mission, coming within days of the Soviet withdrawal from Afghanistan and as the new US administration is still groping for a Middle East policy, has helped project the Soviet Union to the centre of diplomatic events in the region.

The Soviet official's proposed meeting in Cairo today with Mr Moshe Arens, Israel's Foreign Minister, and Mr Yassir Arafat, leader of the Palestine Liberation Organisation, will add an unexpected and welcome dimension to his mission.

At the very least it reveals a seriousness of purpose on the part of the Soviets and a willingness to canvass all points of view.

US officials say they have long recognised that the Soviet Union has legitimate interests in the Middle East. They believe the Shevardnadze visit should be seen in the context of attempts to solve other regional problems in which Washington and Moscow have a joint interest.

If the US is prepared to join

US anxious as Moscow revives shuttle diplomacy

Tony Walker examines the significance of the Soviet initiative in the Middle East

"Mr Shevardnadze," observed an Egyptian official who was involved in the Camp David process, "is engaged in shuttle diplomacy like the Americans."

The comparison, though not exact, is a concern for the US. The Soviet Foreign Minister's highly visible Middle East tour certainly adds to pressures on the White House to quicken its review of its Middle East options.

But Mr George Bush, US president, underlined yesterday that the US that would not be "stamped" into hasty initiatives in reaction to the increased Soviet activity in the region.

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If the US is prepared to join

Clampdown prompts Seoul party row

By Maggie Ford in Seoul

OPPOSITION and ruling party demonstrators followed a violent rally by farmers 10 days ago. Following a personal visit by Mr Roh to the national police chief, two demonstrations last weekend were crushed, attracting public criticism of the stern police tactics.

All three opposition parties condemned the police behaviour.

The Government has also recently injected an element of confusion into the political arena by back-tracking on its

policy of rapprochement towards communist North Korea.

Yesterday the DPP said it would resist Opposition plans to revise the National Security law, under which contact with North Korea is punishable.

A leading South Korean businessman last month visited the North with Seoul's consent and signed agreements on a development project, raising hopes of a breakthrough in relations.

TWO members of the self-styled Mandela United Club, Mr Winnie Mandela's bodyguard, appeared in court yesterday charged with murdering 14-year-old Stompe Seipei, Reuter reports from Johannesburg.

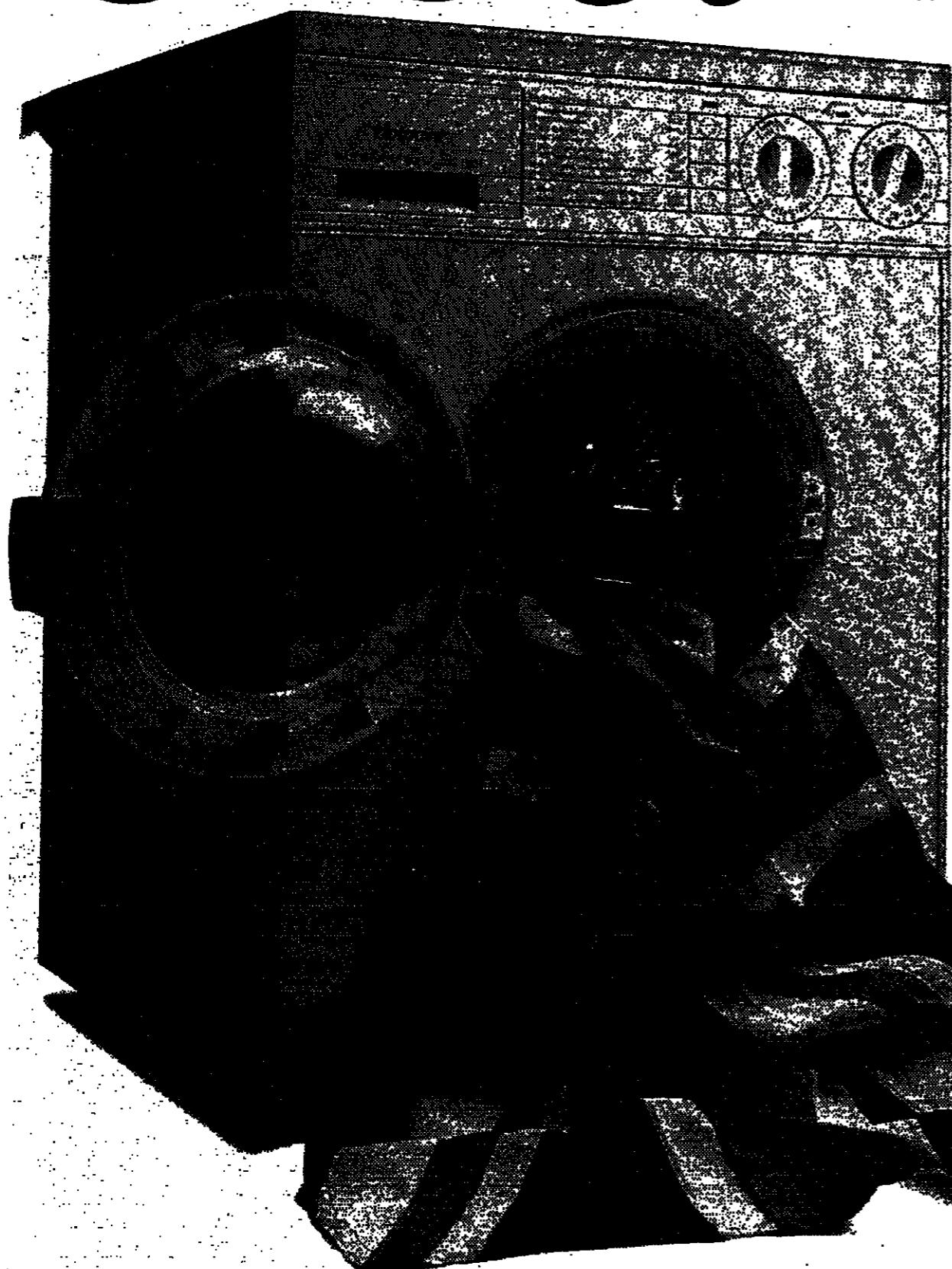
Mr Jerry Richardson, the bodyguard's trainer, and Mr Jabu Sithole, another member of the club, were remanded in custody until February 28, the South African Press Association reported.

The two were among four members of the club detained on Sunday by police who raided Mrs Mandela's Soweto

township home as part of a probe into the killing of the boy and the abduction of two other youths. The other two club members detained on Sunday were not charged and have been released.

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- Actually, only one, Lee.
And for me, it's Credito Italiano.
- Credito Italiano? Yes, him...
I know they're big, lots of branches.
Henry... but...
- Nearly 500 to be precise, and what's more important is exactly where they are. Geographically speaking, they're better distributed than any other single Italian bank.
- Really? interesting... but what kind of services do they offer? Have they got what we need?
- That's the point, Lee. They're just what we're looking for to sort out our business in Italy.
- O.K., but give me the details.
- One example... ECO Italy... Electronic Collections on Italy. One account in whichever branch is best for us and all our business - wherever it comes from - is handled through that branch.
- Using telematics, I hope... we all know what the mail is like.
- Yes. Don't worry, it's fully computerized... and another good thing is we can get our up-to-date position in Italy, with full details, right here in the office, and any time we like. Not bad, eh?
- O.K. Henry, sounds good, but any chance we can try this service out?
- No problem, Lee. Credito Italiano will give us a free demonstration.
- Great. Why don't we give them a call, then?
- Er... well... in fact, I already have done.
They're expecting us tomorrow.

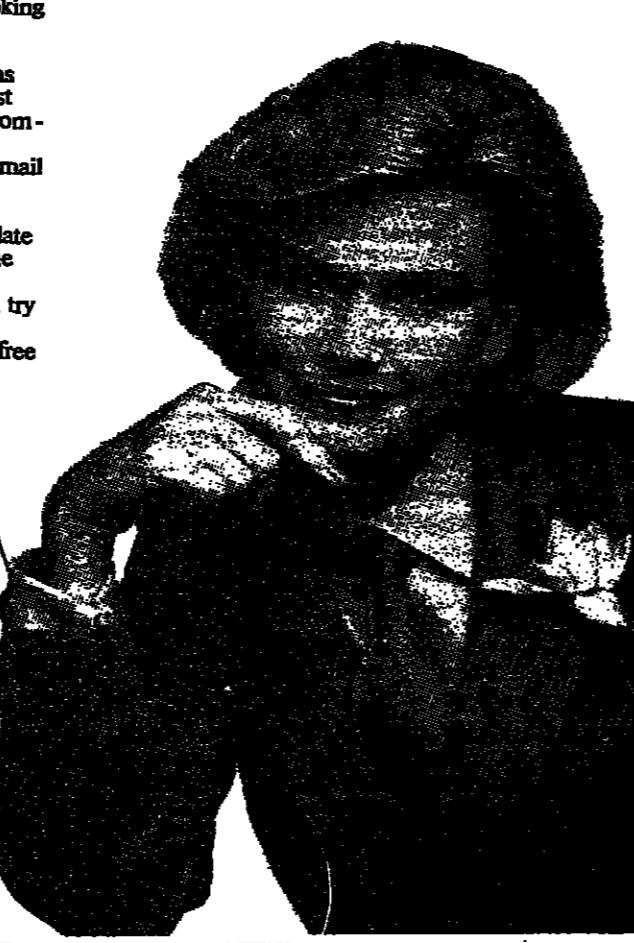


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WORLD TRADE NEWS

Car makers seek Toyota aid limits

By William Dawkins in Brussels

EUROPE'S leading car producers are putting pressure on Sir Leon Brittan, the European Commissioner for competition, to place strict limits on any state aid to encourage Toyota, the Japanese car maker, to build a plant in the EC.

They are anxious at suggestions that generous UK Government investment incentives might be offered to entice Toyota to Britain, where the Japanese company is understood to be considering opening its first European plant, following the example set by a generously-aided Nissan in Sunderland two years ago.

A letter from the CLCA and the CCMC, the two European car industry lobby groups, urges Sir Leon to ensure that any Toyota investment aid sticks strictly within what is needed to compensate for the cost disadvantages of settling at a given spot. The project is understood to involve an investment of roughly \$12m and the creation of 1,000 jobs.

There is a serious risk that any jobs created and investments so promoted would not lead to an improvement of the structure of the sector. On the contrary, they may simply undermine the viability of the manufacturers already estab-

lished in the Community, which have not received such support," warns the letter, signed by Mr Umberto Agnelli, president of the CCMC and head of Fiat; and Mr Gregorio Rampa, president of the CLCA.

The letter is one of the clearest signs yet of the extreme sensitivity felt by the European car industry towards further Japanese investment in Europe.

"Given the delicate balance of competitive conditions among motor vehicle manufacturers established in the EC, it is important that potential new investors like Toyota do not receive any aid from national

regional or local authorities in excess of what is objectively justified," the letter says.

A Commission official confirmed that any state aid offered to a Toyota investment in the EC would have to be cleared by the Brussels authorities, who "would weigh up the regional advantages and the sectional effects on the EC car industry".

Tougher state aid rules adopted by the Commission last month oblige Governments to get case-by-case clearance for subsidies for any car industry project worth more than Ecu 12m (£5.8m).

Unequal race in China's car plants

John Elliott, recently in Shanghai,

THE only way to see if the apparently stationary conveyor belt of Shanghai Automobile Works' final assembly line really moved was carefully to watch the point where it disappeared into the floor. There, 10 years ago, fractional progress was visible.

Today there has been only a tiny improvement. Four state-of-the-art-looking Shanghai sedans are now produced an hour instead of three - so the line's movement is just, but only just, discernible along its length.

Little else has changed in what was once China's only so-called mass production car plant since February 1979. I was there then with Mr Eric Varley, British Secretary for Industry, who was on a mission to sell British steelworks and power stations to China's newly opening economy (he had little success).

Now the cacophony of metal bashing in the body shop is just as deafening as it was then. Workers still clamber over bonnets and boots to hammer away at rough metal pressings crudely produced from 30-year old heavily-worn dies - though many of the workers now wear tight jeans and bright sweaters instead of drab Mao-style overalls.

The old Mercedes-based, 35-year-old design is the same, apart from a new shiny radiator grill and dashboard. This is the unchanging face of industrial China with its inefficiency and politically-influenced management.

In sharp contrast, the factory next door is a dramatic symbol of the change wrought by China's years of economic reforms since 1979. Here modern Volkswagen Santana 1.800cc saloons are being produced by a 50-50 Sino-German joint venture to standards of quality - though not yet of

productivity and efficiency - which can stand up to international comparison.

"We are breaking through Chinese concepts, combining Chinese experience with Volkswagen's," says Mr Yu Liang Kun, who is one of the country's new generation of enthusiastic young managers despite his bureaucratic-sounding title - manager of the managing director's office.

Six years after it started trial manufacturing, Shanghai Volkswagen expects to produce 17,000 Santanas this year. That is 2,000 more than last year, but 3,000 less than planned because economic cuts have reduced demand from government departments and cadres. The target is 60,000 - or 200 a day - in 1992 when the first seven-year phase of the 25-year joint venture ends. There have been small profits for a couple of years.

Both companies have to buy their materials and distribute most of their cars through the same Shanghai government-controlled system. But there the similarity ends. Mr Liu Sheng-Dao, Santana's deputy director, talks of increasing his production rate from 4,200 cars in 1987 to 10,000 in 1990-91 with only a marginally improved engine.

VW is in a different league. It aims to consolidate its position as one of China's three officially-designated car producing centres which are expected to spearhead expansion of production from a country-wide total of 30,000-35,000 cars last year to 700,000 by the year 2000.

Executives say they hope to produce their own Chinese-designed car in the mid-1990s with the help of a technology centre now being built up to develop components and spares capable of export to other VW plants around the



Symbol of change: start-up day for Volkswagen in Shanghai

world. That would involve building a car plant to produce 300,000 cars a year.

Volkswagen has a 50 per cent stake in its venture which will have cost Yuan 1.3bn (£300m) - including DM400m (£125m) in foreign exchange - by the time the plant is complete next year.

There are three Chinese partners, including the Bank of China, which helped negotiate a contract avoiding many foreign exchange problems experienced by other joint ventures. The bank also organised VW last year to become the first foreign joint venture to issue bonds to the public - Yuan 29.5m was raised to help domestic financing.

"You need a Chinese partner to help you with the bureaucracy and other problems," says Mr Norbert Pilz, finance director, listing the sorts of difficulties faced by joint ventures in China. These included transport, scarce material supplies, and prices and dues charged by state organisations for items such as electricity.

VW had to start virtually from scratch finding component suppliers and has been trying with only limited success to persuade European suppliers to set up joint local production ventures. "We have a serious problem maintaining consistent quality of components. One day a firm delivers good products, the next week it is all rubbish," says Mr Pilz.

About 30 per cent by value of production has been localised. This is expected to rise to 50-60 per cent this year including the manufacture of engines, transmission and pressings as new production shops are opened.

"I am very competitive on quality but not on price," says Mr Burkhard Welkener, the senior West German executive who is in charge of commercial activities. He wants to export Santanas to friendly countries to help compensate for reduced domestic demand. He is also planning component exports to VW outlets overseas, including engine blocks in 1991.

The management structure is based on VW's West German practice with four equal-ranking top executives in charge - two West Germans plus two Chinese, one of whom is managing director and co-ordinator.

The factory's Communist Party secretary plays no managerial role. In the Santana factory he is much in evidence.

VW's main managerial problem has been to persuade Chinese managers to take individual responsibility and decisions. "They have to change their attitudes from working in state-owned enterprises where there is only one managing director who deals with absolutely all questions and decisions. They have to learn to take decisions themselves," says Mr Pilz.

The partnership seems to be working well. "It takes time in China to learn to wait," he adds.

Two US trade disputes defused in Gatt

By William Dulforce in Geneva

TWO POTENTIALLY explosive trade disputes involving the US were temporarily defused at a special meeting of the General Agreement on Tariffs and Trade council yesterday.

After blocking the matter at two preceding meetings, the US agreed that a Gatt disputes panel should hear a Brazilian complaint against import sanctions worth \$39m (£21.6m) a year imposed in a row over pharmaceutical patents.

The EC did not press its demand for a similar panel to examine its charge that US sanctions against \$100m-worth of EC farm exports broke Gatt rules. Washington had retaliated against the EC ban on hormone-treated meat imports.

Mr Tran Van Thinh, the

chief EC delegate, said that while he was keeping the request for a panel on the table, he appreciated the US was not in a position to agree to one now.

Mr Frans Andriessen, EC Trade Commissioner, and Mrs Carla Hills, US Trade Representative, calmed the row in Washington at the weekend by giving a joint task force 75 days to find a solution.

Yesterday's council had been called to hear the Brazilian case against 100 per cent duties the US has put on some imports from Brazil in retaliation for its alleged failure to pay for patented pharmaceutical processes.

More than 50 countries, including the EC states,

backed Brazil's demand for a Gatt panel at the last council meeting in which many governments have come to regard as a test of Washington's commitment to the multilateral trading system.

Brazil won its panel but not before Mr Michael Samuels, Deputy US Trade Representative, insisted the panel should "hear the full story".

He claimed Brazil's policy had permitted misappropriation of US inventions worth many millions of dollars a year. Brazil had refused repeated requests for intellectual property protection.

If Gatt were to remain viable, it was essential that rules related to intellectual property be negotiated

Split on new Lomé trade convention

By Andrew Whitley in Jerusalem

NEGOTIATORS from the EC and the 55 African, Caribbean and Pacific (ACP) states remain split on key aspects of a new Lomé aid and trade convention after last week's ministerial discussions in Brazzaville, David Buchanan reports from Brussels.

EC officials said yesterday both sides agreed on the basic structure of a new agreement, including the possibility that Lomé IV, due to begin in February 1990, might be for longer than the usual five years.

But they were still split on the new convention's trade conditions governing market access, rules of origin and safeguard clauses for ACP products, while agreeing on the principle but not details of how to maintain the Stabex and Systim programmes in agricultural commodities and minerals respectively, to stabilise ACP export earnings.

Mr Edwin Carrington, secretary-general of the ACP secretariat in Brussels, complained yesterday that EC offers to help ACP states improve access to non-EC markets were "no substitute for removing obstacles to our products in Europe." The next ministerial negotiation session is planned for May.

The fact that not one US bank is at present represented in the Jewish state is to be regarded as a test of Washington's commitment to the multilateral trading system.

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If Gatt were to remain viable, it was essential that rules related to intellectual property be negotiated

in the Uruguay Round. There was an imbalance in rights that afforded Brazil an opportunity in Gatt to address a dispute affecting its exports while denying the US the ability to address a Brazilian practice affecting the same amount of US trade. Mr Samuels said.

Mr Rubens Ricupero, Brazil's ambassador to Gatt, said Mr Samuels' description of his country's policy on intellectual property was over-simplified.

Brazil had been the first developing country to adopt comprehensive legislation on intellectual property and was prepared to discuss any matter related to intellectual property in the right forum - the World Intellectual Property Organisation.

US bank in Israel aircraft deal

By Andrew Whitley in Jerusalem

A JOINT venture recently formed by American Express Bank and an Israeli entrepreneur, Mr Ezra Harel, is to finance a planned expansion of state-owned Israel Aircraft Industries' aircraft upgrading and conversion activities.

The new company, Aviation Express, which is also seeking to promote research and development projects in Israel, represents an unusual marriage of US capital and Israeli technological capabilities.

Its novelty can be judged by

the fact that not one US bank is at present represented in the Jewish state.

IACI confirmed discussions had been held with a subsidiary of American Express with a view to the joint marketing of work on civilian aircraft handled by the company's Belek division.

They will try to find aircraft for sale and finance the work," he said.

Since cancellation of the Lavi combat aircraft in 1987, IAI has retrenched its activities, pulling out of the main

facture of military aircraft and putting greater emphasis on upgrades and conversions of passenger aircraft to cargo. Latin American countries have been among its best customers.

Representatives of the joint venture are understood to have approached the Chief Scientist's Office of the Ministry of Industry and Trade, to explore the possibility of obtaining matching funds for company start-ups, in which it would take equity participation.

Cathay Pacific to boost flights

By John Elliott in Hong Kong

CATHAY PACIFIC Airways is expected to introduce up to six extra passenger flights a week from Hong Kong to London, following an agreement reached in London during the past few days about how the operations of British Caledonian, now part of British Airways, should be rearranged.

This is a victory for Cathay, Hong Kong's international airline, which has been pressing for extra flights for a long time. Cathay, British Airways and British Caledonian have

flights to its present total of 10 in addition to five freighter flights.

British Airways which has no freighter flights, will add six Caledonian current flights to the nine it has been operating, leaving a considerable margin for future expansion.

Cathay recently applied to the Hong Kong government for a 10 per cent fare increase on the London route, its first increase since 1986.

UK NEWS

BR accepts full responsibility for Clapham crash

By Rachel Johnson

BRITISH Rail has uncovered a chain of "human and procedural" failings which led to the rail disaster at Clapham, south London, in December, the inquiry into the crash was told yesterday.

"Today British Rail wears a white sheet because it accepts responsibility and legal liability for the death of 35 people and for the injuries to many more in the Clapham disaster," said Mr Roger Henderson, director of British Rail.

"Excuses would not be offered" for BR's failures.

It was determined to correct its deficiencies to avert "another Clapham" and had made itself the subject of self-critical analysis from top to bottom. "The judgment on management will not be fudged."

The disaster occurred while new signalling was being installed.

Mr Henderson said there had been "flawed" decisions on the re-signalling scheme, faults in the installation of which caused the disaster, which compromised passenger safety.

Technicians' deficiencies were only partly to blame.

BR's safety system for testing and checking was ineffective.

BR's procedures had failed to break the chain which

led to undetected and uncorrected workmanship and other deficiencies.

But workmanship on signals had never before had fatal consequences, Mr Henderson said.

The adequacy of staff training,

and testing and supervision procedures at Clapham were open to question.

Mr Henderson said auditing of work across the country had shown that the rail working practices at Clapham were not mirrored elsewhere.

The cause of the accident in which a train from Poole, Dorset, rammed a stationary train from Basingstoke, Hants, was clear, Mr Henderson said.

The "falsefire" signalling mechanism designed to prevent one train from entering an area occupied by another had failed. This was because resignalling work carried out by Mr Brian Hemmingway and Mr David Dowd, the technicians, caused a malfunction.

By "the wickedest mischance", this signal failure set a trap on the blindest corner of the route, he said.

Mr Michael Spence, counsel for the bereaved, said the evidence so far showed a "wicked lack of imagination leading to shortcuts being taken, and essential steps relating to safety being neglected."

Beecham to sell new drug for heart attack victims

By Peter Marsh

BEECHAM, the British pharmaceutical company, yesterday announced it had gained a UK product licence for selling Eminase, a new drug which it has developed in its own laboratories and which is thought to have a high potential for treating victims of heart attacks.

Eminase, which some analysts think could account for worldwide sales of up to £150m a year by the early 1990s, is available in West Germany but not the US, France and Italy.

Eminase is one of a general class of drugs called thrombo-

lytics which can be given to people shortly after suffering a heart attack. The products dissolve the blood clots involved in such attacks and which can often cause death by disrupting blood flow.

Beecham said yesterday clinical trials had shown prompt treatment with Eminase roughly halved the chances of a patient dying in the period immediately after a heart attack. The drug could be available in the UK before the summer, pending Department of Health approval.

Drug research, Page 8

Chatlines approved by Monopolies Commission

By Hugo Dixon

BRITAIN'S controversial chatline services - which allow groups of people to speak to one another over the telephone - should be allowed to continue, the Monopolies and Mergers Commission recommended yesterday.

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The chatlines are no longer operating after a decision by British Telecom, Britain's dominant telecommunications operator, to cut them off earlier this month. Several private companies providing the services are challenging this in the courts.

The controversy stems mainly from concern that chatlines encouraged teenagers to run up large telephone bills payable by their parents. There have also been worries about use of such services in arranging "romantic" rendezvous.

The MMC concluded that the chatlines, which generated a revenue of £2.5m in the three months to June last year, operated against the public interest because of people running up bills on behalf of others. However, it also said they had value for those users who were prepared to pay and that measure which jeopardised their continuation would not be justified.

The MMC therefore rejected Sir Bryan's original proposals last July that chatlines should be accessible only to those customers which expressly asked for them and only when itemised bills were also available.

The technology for implementing those conditions is not yet in place.

Instead, the MMC has advised Sir Bryan to negotiate a code of practice with the companies providing chatlines. Such a code could contain provisions for a fund to compensate customers faced with excessive bills for phone calls they had not authorised.

Growth hits 4.5% in 1988 despite slow last quarter

By Simon Holberton, Economics Staff

GROWTH in Britain slowed dramatically in the final three months of 1988 but the economy grew by 4.5 per cent in the year as a whole, according to official preliminary estimates released yesterday.

The estimates of gross domestic product, which were published by the Central Statistical Office, show that real output in Britain, after allowing for the effects of inflation, rose by 0.1 per cent in the December quarter, compared with the previous three-month period.

The CSO said growth was 3.5 per cent higher in the fourth quarter compared with the level prevailing in the last three months of 1987.

Excluding North Sea oil,

mortgage arrears and repossession by building societies fell more sharply than expected last year, but the trend may be reversed in the first half of 1989, said the Building Societies Association.

In the second half of 1988, building societies repurchased 6,380 homes, 35 per cent fewer than in the first half of the year and 43 per cent below the same period in 1987.

Mr Boles, director general of the BSA, said falling unemployment and the house price boom were the main reasons why mortgage arrears fell steeply last year.

growth in the fourth quarter was nearly 5 per cent higher than in the previous corresponding period.

Over the year as a whole, growth in non-oil sectors of the economy was up 5.5 per cent.

The output measure of GDP is regarded by the CSO as the

best indicator of short-term trends in growth. But officials warned against reading too much into the preliminary figures, which were based largely on estimates.

Officials said there were no firm figures for construction industries, but there were indications from preliminary figures that output had slowed in service industries.

The Treasury said that it was very difficult to discern a trend in yesterday's figures. It said they were extremely preliminary and based on projections which might be altered

when a full set of GDP figures was released next month.

The Treasury's comments indicate that it expects growth to be higher than the forecast of 4.5 per cent made in November last year.

Its forecasts for this year and its estimates for last year's growth rate will be included in the budget on March 14.

The number of long-term unemployed continued to fall at a steady rate in the three months to January, the Department of Employment reported yesterday, writes Peter Norman. The number of benefit claimants out of work for 12 months or more fell by 64,000 in the latest quarter, maintaining the momentum of the previous three months.

Financial targets moved to ensure bullseye

Simon Holberton on the Government's bid to lend coherence to its economic policies

AS AN icon of Mrs Thatcher's economic policy the medium term financial strategy (MTFS) stands alone.

It represented the Government's determination to pursue unpleasant policies for the long-term good. But over the past two years the MTFS, which attempts to make Government policy more predictable over a period of years, has begun to look tarnished.

One of the most difficult issues that Mr Nigel Lawson, Chancellor of the Exchequer, has to consider as he frames next month's Budget is how to make the MTFS, which is seen as a target which is moved according to the prevailing economic background, credible again.

With monetary growth exceeding its target by a wide margin, a Budget surplus of £1.3bn or more, inflation rising towards 8 per cent, what is the value of a medium-term target? A medium-term target should be one you come back to if you deviate from it."

One of the most important guidelines was the growth in money gross domestic product - what Sir Geoffrey Howe, Mrs Thatcher's first Chancellor of the Exchequer - used to call the national cash limit.

Last year he proclaimed the old-style virtues of a truly balanced Budget. This year, he has to explain the efficacy of a Budget surplus which he might project as far ahead as 1992/93.

The MTFS represents an

attempt to give intellectual coherence to the Government's economic policies.

It used also to be about rules and, until last year, it contained warnings that if, for example, monetary growth exceeded target then interest rates would go up.

To many independent observers of the Government's record the MTFS, which it concedes had powerful and beneficial effects on inflation expectations in the early years, has become a yearly exercise in rationalising past mistakes.

It is seen as meaningless as a medium-term view of the Budget because all its formulation entails is making the result for the ending fiscal year the target for the year ahead. Similarly, as a guide to the economy it has lost credibility.

Mr Gavyn Davies, chief UK economist with Goldman Sachs, the US securities house, points out: "If they change the target every year what is the value of a medium-term target?"

A medium-term target should be one you come back to if you deviate from it."

One of the most important guidelines was the growth in

money gross domestic product - what Sir Geoffrey Howe, Mrs Thatcher's first Chancellor of the Exchequer - used to call the national cash limit.

But after two years of unexpected rapid growth in this measure of national income,

TREASURY RECORD ON PROJECTING INFLATION

Year	1982	1983	1984	1985	1986	1987	1988
'82	8	7	6.5				
'83		5.5	5.5	5			
'84			4.5	4	4	3.5	3
'85				5	4.5	3.5	3
'86					3.75	3.75	3.5
'87						4.5	4
'88							4.5
Actual Rate	7.25	4.5	5	5.5	3.25	5.25	6.25

Per cent change in the GDP deflator at market prices projected in successive Budgets

Autumn Statement Estimate

which has led to virtually all of the guidelines inherent in the 1987 and 1988 versions of the MTFS being broken, questions are being asked as to the validity of this yearly ritual and the tasks it sets Government.

The House of Commons Treasury and Civil Service Committee pointed out recently that the Government's hope of reducing inflation to 3 per cent "always remains three years from being realised" in the official medium-term projections contained in the Budget.

The MTFS has gone through a number of significant changes since Sir Geoffrey, unveiled it to an unsuspecting world in his Budget of 1980.

The history of the MTFS is one of moving from dogmatism to pragmatism. The relationship between monetary growth and economic activity was difficult to predict so the emphasis of policy switched from achieving targets to assessing

"monetary conditions". It was the third MTFS, that of 1982, in which the Treasury introduced the concept of "monetary conditions" and into this loose formulation also crept the first mention of the exchange rate as an important element in policy.

As the reliability of monetary aggregates grew so did the importance of the exchange rate. By 1987, with all monetary targets with the exception of MO ditched and even it devalued in significance, there was only the exchange rate left.

The Treasury line last year was that particular importance was attached to stability of the sterling/D-Mark exchange rate:

it was what industry wanted and it provided an anchor against inflation.

That was shot out of the water by the events before the Budget, when the Government uncapped sterling. Mid-way through 1988, after its summer

review of the economy, the Treasury had embarked on a tightening of monetary policy; its sensitivity to the £/D-Mark rate had become considerably diminished and it has highlighted the MO.

Some independent economists expect Mr Lawson to reaffirm in his Budget speech the validity of his target for growth in MO might even give it a higher priority than the exchange rate.

But how Mr Lawson deals with the Exchequer's riches over the coming years has also excited interest. As Mr Bill Robinson, director of the Institute of Fiscal Studies says: "Anything he does this year is going to be different from anything he's done before."

Mr Robinson believes that in explaining the windfall gains to the Exchequer this year, the Chancellor will invoke the notion of "in-built fiscal stabilisers", that is, what naturally occurs during periods of rapid or slow growth, in the absence of any change to rates of taxation.

On this view the Chancellor will explain his Budget surplus as being the product of rapid economic growth. "He will probably forecast the same surplus out to 1993 and point to it declining as a share of GDP," Mr Robinson says.

WHAT PUMPED UP EFFICIENCY FOR RINGWOOD BREWERY?

It was gas of course. But not the CO₂ variety. The story begins with the problems that Ringwood Brewery were having with their electric heating units. Localised overheating was causing caramelisation. This led to a lengthy cleaning process after each and every brew.

The electric equipment was also slow in bringing the 'wort' to boiling point and didn't guarantee a strong, vigorous boil. This is important in the brewing process as it helps enhance the flavour and appearance of the beer.

The new gas-fired equipment has more than halved the previous running cost. Instead of two separate heating units, one to heat the 'wort' the other to heat the hot water for the next day - the brewery now only needs one.

Featuring a gas-fired high intensity immersion tube heater, the 'wort' is now brought to the boil faster. And much more vigorously.



Natural gas also allows a more even heat and greater control. This means that the heat input can be turned down precisely, thus keeping caramelisation to an absolute minimum. As a result, cleaning is now simpler and far less time consuming. One wash through is all that's necessary.

Greater efficiency isn't the only benefit for Ringwood Brewery. The company estimate they've made a 55% saving in energy costs.

As for the beer, Old Thumper has just been voted Champion Beer of Britain.

As David Welsh, Managing Director of Ringwood Brewery puts it, "As far as the production of our 'Old Thumper' is concerned, gas has really hit the target."

It could do the same for your company.

For a free copy of our fact file, contact Peter Cleall, Manager, Industrial Development, on 01-242 0789.

THE FUEL THAT PROFITS INDUSTRY

British Gas
ENERGY IS OUR BUSINESS

UK NEWS

Pressure rises on British Gas over finance policies

By Max Wilkinson, Resources Editor

BRITISH GAS is likely to be required to change significantly the way it allocates costs and profits after a review by Mr James McKinnon, the Government appointed regulator for the industry.

They could have far-reaching effects on the ability of competitors to use British Gas's pipelines and on the way in which domestic gas prices are calculated.

British Gas does not publish separate profit figures for its monopoly sales to domestic customers in the tariff market, for sales under contract to commercial and industrial customers or its pipeline business. Nor does it make a strict division of its costs between the three sectors.

Mr McKinnon, director-general of the Office of Gas Supply (Ofgas), has almost completed an analysis of the corporation's unpublished figures to divide up the costs and profits between the three sectors.

British Gas, which has co-operated in the project is still arguing about how the new financial system should operate.

Mr McKinnon said: "I am very clear about the methodology I would like to follow. They have their ideas and they are not the same. British Gas



Mr James McKinnon: armed with clear methodology

proves to be making rather high profits in this sector. "The reward in the tariff sector should be closer to that on a high risk investment," he added.

Mr McKinnon says he does not know yet what the full implications of the new analysis will be for domestic gas prices, and the formulae which govern domestic tariffs has three more years to run before it is due to be revised.

Ofgas will also be using the new system to assess charges for use of British Gas's pipeline by competitors. Several companies are now negotiating with British Gas to use its system.

Under present rules, Ofgas can lay down terms and conditions in the case of a dispute, though it could be challenged in the courts. In the case in which Mr McKinnon has been asked provisionally to give a ruling, British Gas is insisting on very high performance standards for matching input and output to its system. If they are not met, the corporation could cut off supplies.

If the dispute cannot be settled, Ofgas is likely to insist that a failure to meet technical standards should result in a reasonable financial penalty rather than cutting supply. Time of trial, Page 18

ITV groups 'unlikely to survive'

By Raymond Snoddy

THE MANAGING director of one of Britain's largest ITV companies said yesterday that few if any of the 15 regional ITV companies were likely to survive as independent operators through the 1990s.

Mr Leslie Hill, managing director of Central Independent Television, told the Financial Times cable and satellite conference in London that there would be fewer companies, "but even the remaining companies will find themselves part of larger groups."

There was nothing wrong with that provided the groups were run on decentralised

lines. The first takeover targets - the Government has proposed that in future ITV companies can be taken over - would be the ITV companies which had diversified because their break-up value would make them more attractive.

Mr Hill also said that the BBC and ITV did not provide viewers with adequate choice at peak viewing times. "If we wish to tackle the new competition (from cable and satellite) then we should be making sure that we provide high-quality, entertaining and interesting

programming at appropriate times in the schedule," Mr Hill said.

Mr Michael Checkland, BBC director-general, said the corporation planned to distribute a channel compiled from BBC1 and BBC2 by high-power satellite to cable networks over Europe.

Talks were being held with the European Space Agency to carry the BBC channel on the experimental Olympus Satellite, to be launched later this year. The BBC's main audience targets are in Spain, Austria and Switzerland.

GPT plant to build Amstrad computers

By Hugo Dixon

AMSTRAD, the consumer electronics group, is to make up to 20 per cent of its new range of high-performance computers by the GEC-Plessey Telecom plant in Kirkcaldy, Scotland.

The company's decision is a reprieve for the Kirkcaldy plant, which was threatened with closure as part of a reorganisation of the UK's largest telecommunications group.

Amstrad has hitherto had all its computers made at low-cost facilities in the Far East.

The group has been seeking to source a larger proportion of its products in Europe in response to the European Commission's anti-dumping investigations into electronics goods made in the Far East.

Making each computer in Kirkcaldy will cost Amstrad about £10 more than making one in the Far East, but Mr Alan Sugar, its chairman, believes this is a worthwhile expense to avoid trouble with the Commission.

The Kirkcaldy plant employs 700 people and is the town's largest private-sector employer. It was threatened with closure when GEC and Plessey merged their telecommunications interests to form GPT last March.

As part of a cost-cutting programme, manufacture of GPT's "System X" telephone exchanges was to be concentrated at two sites in Liverpool and Coventry. This, it was feared, would leave Kirkcaldy with no work.

Under the deal with Amstrad, GPT will eventually make up to 10,000 computers a month. The Kirkcaldy plant is also still manufacturing System X exchanges albeit at a lower rate than in the past - and will continue to do so for the "foreseeable future".

GPT said the Amstrad deal would ensure continued employment at Kirkcaldy. However, it was not clear whether it would be enough to safeguard all 700 jobs.

Japan takes first step into steel industry

By Nick Garnett

JAPAN has taken its first tentative step into the British steel industry with a joint venture deal between Mitsui, the large trading group, and William King, a West Midlands steel processor.

The agreement involves the setting up of a jointly-owned steel processing plant and stockholding operation in the North-East of England at Washington, Tyne and Wear.

The new company, Mi-King, is 50 per cent owned by William King, with 30 per cent held by Mitsui's UK subsidiary and the remainder by Mitsui in Japan.

William King has initial capitalisation of £2.5m and will employ

just 15 people but the intention is to expand the operation. It will use a 57,000 sq ft segment of a converted former TI Tube Products factory.

The company is hoping to supply steel to component suppliers for the Nissan car plant, also in Washington.

The move is the first sign that the setting up of Japanese assembly and manufacturing operations in the UK, which has already led to the establishment of Japanese component companies, is also having an impact on the supply of raw materials.

Mitsui said yesterday it had teamed up with a British company because of expected

increases in demand for high-quality steel parts as a result of Japanese companies setting up in the UK.

Mitsui has set up similar ventures in the US in Tennessee and Indiana in cooperation with an American company, Steel Technologies.

William King, based in West Bromwich, employs 150 people and last year had sales of £50m. It specialises in processing flat rolled strip mill products.

Mr Peter Ullathorne, managing director of the new operation, said Mi-King intended to supply steel to the domestic appliance industry and other industrial sectors as well as to

motor component makers. The UK steel, steel processing and stockholding industry has recently had an injection of foreign capital.

Sacilor-Usinor, the French state-owned steel group, purchased last month a 30 per cent stake in Howard E. Perry, a Wolverhampton steel stockholder.

Beltrema, a mini-mill steelmaker in northern Italy, is planning to build a steel finishing plant at Boston, Lincolnshire.

The privatisation of British Steel in December also brought in a significant amount of foreign capital into the UK's largest steel producer.

In Brief

Bankers to testify in Norwegian tax case

LORD KINDERSLEY, a director of Lazard, the UK merchant bank, and Mr Arthur Hardman, a former senior employee of the bank, must give evidence about the financial affairs of a wealthy Norwegian shipowner in a tax case in the Norwegian courts, the House of Lords has ruled.

The Court of Appeal in London had refused to order the two witnesses to give evidence. Five Law Lords have now overturned that ruling after Norway's appeal.

Mr Hardman and Lord Kindersley had claimed that giving evidence on issues connected with the affairs of Mr Andres Jabra, who died in 1982, would break their duty of confidentiality as bankers.

Mr Jabra, whose estate is worth Nkr335m (£50.5m), is alleged to have avoided tax by concealing assets, including those of a Panamanian company, Continental Trust.

Vending change

THE UK vending machine industry is preparing for the most radical change in coinage since decimalisation in 1971, when new 5p and 10p coins are introduced in the 1990s. The Royal Mint is expected to save £3m annually in metal costs, but the cost to the vending industry has been put at more than £30m by the Automatic Vending Association of Great Britain.

Hoare Govett sold

MIDLAND Montagu Futures, the largest trader on the floor of the London International Financial Futures Exchange, has agreed to buy Hoare Govett Futures from Security Pacific. The deal is to be completed by the end of March.

Directors detained

THREE directors of Charnley Davies, the Leeds-based financial group which collapsed in January 1987 with losses of £5m, have been detained for questioning by West Yorkshire Police Fraud Squad.

EMS call for UK

MR STANLEY Clinton Davis, the former European Commissioner, has called on the British Government to join the European Monetary System. Mr Clinton Davis told a Financial Times City of London seminar Britain should also join talks on a European central bank.

BT union election

MR TONY Young has been elected general secretary of the National Communications Union, the main union at British Telecom. Mr Young, 46, a left-wing candidate, will represent 154,000 employees working in the national telephone corporation.

Barclays launches new MasterCard

By David Barchard

BARCLAYS BANK yesterday launched its latest salvo in the increasingly fierce battle between different players in the credit card market. From March 6 it will offer a new MasterCard, designed to compete against the cards of the major retailers which are renowned for their high interest rates.

The launch coincided with a fresh warning from Mr Peter Ellwood, chief executive of Barclays' central retail services division, that annual charges for credit cards may be introduced before too long. Mr Ellwood described the current pricing system of credit cards as "unustainable."

Barclays Assent, as the new card is known, is intended for customers who know that they will not be able to repay their borrowing in full each month and are looking for a lower rate of interest than the 25.2 per cent annual rate charged by the major credit cards. However, there will be no annual fee for cardholders.

While the new card is unlikely to take many customers from other existing credit cards, it will offer people looking for extended credit to buy consumer durables a better interest rate than they obtain when using store cards, which generally charge rates between 22 and 42 per cent.

"This is a highly responsible product which puts the cardholder firmly in control of his or her finances," said Mr Ellwood.

"We believe that it is the cheapest bank issued credit card with no fee attached."

The card will belong to the MasterCard payments system which Barclays, the largest Visa card issuer in the UK, joined last September to compete with Lloyds Bank and the other big clearers in offering both Visa and MasterCard services to retailers.

Assent has been carefully designed to ensure that it does not compete with Barclaycard, Barclay's main credit card.

Unlike Barclaycard, customers using Assent to make purchases will not pay an interest-free period between the date of the purchase and a specified payment date.

Instead Assent card holders will be entitled to credit of up to 25 times an agreed fixed monthly payment by direct debit.

New cardholders will pay interest of 19.9 per cent on money borrowed using the card, 5.9 percentage points below the Barclaycard rate.

Barclays is guaranteeing to all applicants for Assent who apply before the end of June that it will not allow the interest rate on the card to rise above 19.9 per cent.

The bank plans to spend £6m on an advertising campaign to promote the card and hopes that it will have picked up several hundred thousand customers by the year end. This compares with over 9m customers for Barclaycard.

London Life merger approved

By Raymond Hughes, Law Courts Correspondent

LONDON LIFE, Britain's oldest mutual insurer, has overcome the final obstacle to its proposed merger with Australian Mutual Provident (AMP).

A High Court judge yesterday made an order under the 1982 Insurance Companies Act sanctioning a scheme for the transfer of London Life's long-term business to AMP.

Mr Justice Hoffmann said he was satisfied the scheme was for the benefit of London Life's policyholders as a whole. Dissident policyholders said they were disappointed, but would not appeal.

Mr Oliver Dawson, London Life's president, said the decision vindicated the board's policy. "It was the board's duty to decide what was the best offer. It was not something that could be put as a choice to policyholders, as some people were trying to put forward."

Mr Richard Wales, AMP's UK general manager, also welcomed the decision. "This means that London Life can now put aside the uncertain-

ties of the last few months and get on with its business again."

Mr Justice Hoffmann said the choice of scheme was a commercial decision for the London Life board.

In deciding whether to sanction the chosen scheme, the court was not concerned with whether it might have been improved by further negotiation but whether, taken as a whole, it was unfair to any policyholders or class of holder.

He said objectors had argued that London Life should have merged with some company other than AMP. That the Japanese insurance market should have been explored and that policyholders should have been given the opportunity to opt out and transfer to the Equitable Life Insurance Society.

There was no evidence of any terms which might have been on offer from a Japanese company, the judge said. Under terms offered by Equitable, which had been the front-runner until AMP arrived on the scene, the funds would

have been amalgamated and the business carried on solely in the name of Equitable.

London Life's board preferred the AMP offer because, among other things, it attached a value to the name and goodwill of London Life.

The judge said that London Life policyholders would, by their votes at general meetings, have less influence in Sydney than they now had in London. "But the question is whether, given the safeguards in the scheme, the principles of financial management and inter-fund dealing laid down in the scheme, the role of the UK board, the UK actuary and the UK system of regulation - it is still on balance advantageous to the policyholders as a whole."

The independent actuary says that it is and the great majority of policyholders appear to agree. The objectors have not persuaded me that the majority are wrong."



HYPOLAND

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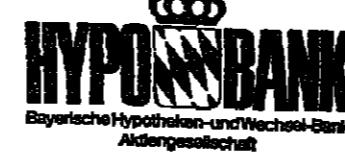
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CORRESPONDENT BANKING IN THE FINEST ROYAL TRADITION



MANAGEMENT

Pharmaceutical research

Beecham tries to better the odds

Peter Marsh explains the UK drugs group's restructuring

Pharmaceutical development can be likened to a relay race in an earthquake zone. The process is highly time-dependent, involves interaction between individuals and can be interrupted at any time by a disaster.

Beecham, the UK drugs-and-consumer products group, has recently restructured its management structure with a view to increasing the chances of its pharmaceutical researchers coming up with winning products.

The new structure aims to integrate the group's market-researching and scientific efforts in drug discovery. It is also attempting to marry these with the important area of licensing ideas to and from other companies.

Masterminding the effort is James Andress, an American who took over last September as head of Beecham's \$300m-a-year prescription-pharmaceutical division.

The approach does not exactly break new ground as efforts to unify the various operations connected with drug development are also taking place in many other companies in the world's 27,000-a-year pharmaceutical business.

Beecham's ideas, however, underline the degree to which virtually all players in this industry are fighting to combat a set of problems common to drug development.

These include the time and cost (up to 12 years and \$50m) of bringing a new drug from invention to marketing; the increasing difficulty of satisfying government regulatory authorities; the degree to which development time eats into a product's 20-year patent protection; countering side effects of a product and the likelihood of it being outshone by a rival medication.

Additionally, today's pharmaceutical industry researchers are having to cope with more economic and time-consuming areas of drug development — those involved with cancer and heart disease for instance — than earlier, more straightforward healthcare team.

problems, such as fighting bacteria-borne infections, which have already been tackled.

Whereas a decade ago a company's research group would work on the scientific parts of a pharmaceutical development and hand the product on to marketing only after several years' work, today most pharmaceutical companies involve marketing staff at the onset of a development programme.

"There should be a consensus view (from the different departments) as to what particular problems a drug is going to solve and how it should be marketed," says Andress, who was recruited to Beecham by Bob Bauman, a fellow American who took over as the company's group chief executive in 1987.

The 50-year-old Andress came to the UK after spells in top positions at two US pharmaceutical companies, Abbott Laboratories and Sterling Drug (where he was president and chief operating officer).

Andress does not try to pretend that he devised all the new management procedures in Beecham's prescription-drug division, which accounts for about a third of the company's turnover but only half its profits. Many were already in place before his arrival, which was precipitated by his unhappiness at staying on under new management after Sterling was bought last year by Eastman Kodak, the photographic giant.

Better internal collaboration is an important part of Beecham's new management procedures. In theory, involving marketing people with researchers early on in a development programme should lead to fewer hiccups arising from people in the company being out of step with each other's thinking. That can happen, for example, if the researchers' view of the scientific potential of a new drug for heart disease does not fit in with their sales colleagues' ideas about the room for it in an already crowded market place.

Each new product that Beecham works on now has associated with it a project team



James Andress: better internal collaboration

of perhaps six people — from Beecham units concerned with areas such as research, marketing and regulatory affairs — is likely to meet on a daily basis during the course of the development process. At any one time there will probably be about 12 product teams in operation for major drugs passing through Beecham's research programme.

"The idea is to give people a sense of ownership (involving the programmes they are working on)," says Andress. "People in these project teams will probably feel more a sense of belonging to their group than they do to Beecham itself."

Another move is to bring licensing more into the centre of Beecham's operations. It is generally acknowledged in the pharmaceutical industry that — with the possible exception of Merck, the world's biggest drugs company — no single group has the research and marketing expertise to cover all the commercially important areas of healthcare.

Licensing — either inwards or outwards — is not an easy matter, though. It involves striking up good relationships with other companies around the world in efforts to see which of many drugs under development in these companies might fit into an existing

marketing portfolio at some point in the future.

Andress has given the job of looking after licensing to one executive — Ray Giles — who is one of four senior managers reporting directly to him. The others are Paul Tatman, who is managing director of the Beecham drugs division, responsible for broad commercial strategies; Tony Marson, the division's finance director; and Keith Mansfield, who is in charge of research and medical affairs.

Other ideas Andress and his colleagues want to introduce at Beecham include:

● Better administration. This can apply especially in the clinical trials parts of Beecham's overall research and development programmes.

Such clinical trials — involving dozens of doctors in different medical centres around the world and the collation of masses of data from patients receiving sample quantities of new drugs — can be a nightmare to administer and to obtain meaningful information.

● Speedier registration. If a company wants to get a product approved quickly by the government registration authorities that have to vet all new drugs, much depends on striking up better links with

these bodies and putting information in a form that can be more easily understood at these organisations. Better use of computer techniques could have a part in speeding up this process.

● Commitment to basic research. Only about a third of Beecham's drugs research and development budget, now running at about £100m a year, is spent on basic laboratory research, with the rest going on clinical trials. Andress says the company is committed to maintaining a steady increase in the funds in this area — the funds went up by about 20 per cent between 1987 and 1988 — as a way of ensuring it comes up with good scientific ideas that lead to new drugs of the future.

As for the degree to which

the new ideas at Beecham have an effect, it is clearly early days. The company's immediate future is much bound up with the success of Enimase — which the company hopes will be launched in the important US market fairly shortly — together with a number of promising drugs emerging from the Beecham development pipeline.

Over the longer term, Beecham may well find it has to fight hard for market share in a world drugs business which is becoming more competitive and in many ways tougher.

Andress is musing the sentiments of managers in virtually any other branch of international business when he says: "We have to be better organised. We have to be more efficient."

Catching the boat by moving downstream

John Griffiths explains how both Du Pont and Dow are instigating their moves into the automotive industry

Stuart Wilson admits that car makers were becoming impatient with the way chemicals group Du Pont was doing business a few years ago. "We saw ourselves as essentially a raw materials supplier, and were conducting our auto business through six different divisions.

"As a result, there could be three or four different Du Pont guys calling on the same customer about the same business."

The purpose of Du Pont creating APD extends well beyond simplifying lines of communications with motor manufacturers, however.

Supply chain

It involves moving Du Pont "downstream" into the motor industry or, as Wilson explains: "We are starting to become involved in the production process at every point in the supply chain."

Nor is Du Pont an isolated

case industry) have not honed our skills as much as we should in areas where we have not had competition. And usually the motor industry wants two suppliers for a lot of components, as well as now requiring closer involvement of their suppliers in a product's design.

So maybe it's better to have Dow and Du Pont both thinking about specific problems." Du Pont's Wilson goes so far as to envisage joint ventures with component suppliers in complementary areas. For example, he says, car inner doors have become very complex. Car makers could be supplied with door frames, or the process to make them, with the mechanisms moulded in.

Both companies have more than 50 product ranges of relevance to the motor industry, such as engineering plastics, elastomers, fibres, electronics products and finishes, which are already used by manufacturers throughout the world.

Although the companies' strategies differ in detail, both are concerned with building on these, by replicating in their group structures the globalisation process already going on among motor manufacturers themselves. To this end, Du Pont, for example, has set up APDs in the main vehicle-producing regions.

Teams of specialists, comprising design and process engineers, applications experts and others have been assigned to each of the major producers and their suppliers.

They have the twin tasks of ensuring that all Du Pont's resources are deployed in tackling each individual company's problems; and to identify specific performance and cost requirements for new models at the design and development stage.

"By being able to move up or down the entire supply chain, we can play a much more pivotal role in cutting the time and cost of developing a new car," maintains Wilson.

Dow's Michael Clark, R&D director, plastics, stresses that "you can no longer survive without being global — otherwise something's going to come out of Japan and whack us all over the head".

COMPANY NOTICE

NOTICE TO HOLDERS OF WARRANTS

MITSUBISHI MINING & CEMENT CO., LTD.

U.S.\$100,000,000

4% PER CENT BONDS DUE 1992
WITH WARRANTS (THE "WARRANTS")

Pursuant to Clauses 3 and 4 of the Instrument dated 13th October, 1988, the following notice of an adjustment to the Subscription Price (the "Subscription Price") of the Warrants is hereby given.

At the meeting of the Board of Directors of MITSUBISHI MINING & CEMENT CO., LTD. (the "Company") held on 21st February, 1989, a resolution was adopted for the issue of new shares by way of free distribution, the particulars of which are set forth below. Consequently, the Subscription Price of the captioned Warrants (the "Warrants") shall be adjusted, as specifically provided in paragraph 3 below.

1. The free distribution of new shares will be made to shareholders of record as of 31st March, 1989, at 3.00 p.m. Tokyo time, at a ratio of 0.09 shares for each one share held.

2. The free distribution shall be made on 19th May, 1989, but the dividends for these new shares will accrue as from 1st April, 1989, Tokyo time.

3. Pursuant to Clause 3(i) of the Instrument, the Subscription Price will be adjusted from Yen 785.00 to Yen 720.20 per share of the Common Stock of the Company effective as from 1st April, 1989.

Dated: 22nd February, 1989

By: THE MITSUBISHI BANK, LIMITED
as Principal Paying Agent
on behalf of MITSUBISHI MINING & CEMENT CO., LTD.

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The Financial Times proposes to publish this survey on:

21st March 1989

For a full editorial synopsis and advertisement details, please contact:

Hugh G Westmacott

on 0532 454969

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FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

JOBS

Rare chance to run world famous institution

By Michael Dixon

NOT many jobs are so famous that the mere mention of their title would instantly register their importance with millions of people around the world. And of the few such posts that exist, far fewer ever appear on the open market.

So it is a rare opportunity that readers of this column are offered the first chance to apply for today. But I doubt that you will easily guess what it is from the news that the specification calls for someone who is above all a money-making manager "robust and worldly-wise" enough to take on "the most ruthless and commercially skilful promoters."

The job is running the Royal Albert Hall in London, whose world-wide fame springs mainly of course from that peculiar British institution - the Last Night of the Proms. It is televised each year not only live throughout Europe, but in recorded form to numerous more distant lands. There is also a wide although smaller international TV audience for several of the 60 more orderly concerts the hall stages in the annual eight-week Promenade season, not to mention the millions of radio listeners they attract.

Because of the hall's association with serious

music, the ruling council's decision to look primarily for a money-maker to head its staff will no doubt offend the good many people who think that such centres of the arts should be financed largely by public funds. But the fact is that the Albert Hall has never received much cash from tax and rate-payers.

Although founded by Royal Charter and Act of Parliament in the 1870s and having charitable status, it has had to earn its own keep. Initial funds came from the sale of some 1,200 of its 5,500 seats, whose owners elect 18 of the 24 council-members headed by the president Sir Kirby Laing. Besides the Prom and similar concerts, revenue-raisers have included boxing, ice-skating, tennis, badminton and squash, and pop and other light music shows. For instance, one Francis Albert Sinatra is due to appear there in April.

The trouble is that, not least because of statutory curbs on the hall's activities, it has been hard-pressed to make enough profit to cover necessary improvements. The financial position has strengthened in the past nine years under general manager Cameron McNicol. But now he is off to set up Glasgow's International Concert Hall

scheduled to open in 1990. The council seeks to replace him with a chief executive whose prime responsibility will be to maximise the Albert Hall's money-making potential within the demands of the law and of its high reputation.

As a result, the job is open to a far wider range of people than are usually considered by organisations in the arts", says headhunter Simon Radcliffe of the IAM consultancy who is handling the search for the council.

The key needs are profit-directed management skills and success in inventively running a complex with a great variety of commercial possibilities.

"Backgrounds we have in mind at the moment include department stores, shopping and leisure centres - even airports - and there may well be a good many more we haven't yet thought of. But despite being flexible in terms of suitable previous experience, it's a very tough job indeed."

As well as experience of negotiating commercial contracts and knowledge of the running of valuable buildings, candidates need highly developed skills in managing people. They should also have the sort of cultured and cosmopolitan

personality required to represent the Royal Albert Hall in its external dealings internationally.

No salary is quoted, but my estimate would be around £50,000. The perks include a car.

Inquiries to Mr Radcliffe at 12 Phillimore Terrace, Aiken St, London W8 6EJ; tel 01-937 8277, fax 01-937 2431.

Corporate gifts

SECOND today comes a job with another world famous concern, Tiffany of New York, although the post will be based at the jewellers company's London branch opened three years ago.

The recruit will be the corporate director leading a team of three people in marketing Tiffany's products to companies as incentive or long-service awards to staff or as gifts to customers. Responsibility is to Mrs Rosamond Monckton, head of the British operation.

Since the prime task is identifying new business opportunities, the job calls for particular abilities in the creative aspects of marketing products of high quality and value. But merchandising and leadership skills are also wanted, as of course are good contacts with top managers of companies in Britain.

Again no salary is quoted. My estimate would be about £20,000 with other benefits negotiable.

Inquiries to Brad Harvey, personnel manager, 25 Old Bond St, London W1X 3AA; tel 01-409 2790, fax 01-491 3110.

Kuwait

NOW to Kuwait City where an Arab bank is seeking two foreign exchange specialists through the agency of British headhunter Dudley Edmunds of the Roger Parker Organisation. The key task for both recruits is to expand the bank's fx trading activities.

Being unable to name his client, he promises to abide by applicants' requests not to be identified to the employer at this stage. The same goes for the other recruiter to be mentioned later.

The more senior of the two newcomers will head the trading section and, as well as personally handling spot and forward transactions in both interbank and corporate spheres of business, will be much involved in the training of supporting staff.

Candidates should already be high-level managers of similar work in a merchant bank and be well versed in Stock Exchange regulations.

Salary indicator is £70,000, with performance bonus, car and mortgage subsidy among other benefits.

Inquiries to Mr Webb, 8th Floor, 7 Bircham Lane, London EC2V 9BY; tel 01-895 2050, fax 01-895 2052.

The second recruit will work as deputy to the first, and will need management experience as well as a minimum of four years fx trading.

In both cases the salary will be tax-free. The indicator for the section head is US\$120,000, and for the senior trader US\$90,000. Perks will include housing allowance.

Inquiries to Mr Edmunds at 231 Shoreditch High St, London E1 6PJ; tel 01-247 7632, fax 01-247 1411.

City

MEANWHILE back in London, recruiter Roy Webb of the Devonshire Executive consultancy seeks a senior manager to direct and control the corporate finance operations of a British commercial and investment bank. Main responsibilities of the job will be to advise on mergers and acquisitions, defences, and buy-outs.

Candidates should already be high-level managers of similar work in a merchant bank and be well versed in Stock Exchange regulations.

Salary indicator is £70,000, with performance bonus, car and mortgage subsidy among other benefits.

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essential. An understanding of leveraged buy-outs and property financings would be an advantage. A knowledge of French would also be helpful, but is not essential.

The job offers excellent long-term potential and a particularly pleasant working environment.

Please reply in confidence to Caroline Magnus, quoting ref. 940, at Overton Shirley and Barry, Prince Rupert House, 64 Queen Street, London EC4R 1AD. Tel: 01-248 0355.

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Computer literate and with several years' experience in the securities industry it is essential that you are familiar with market terminology and practices. A knowledge of technical analysis would also be of interest as would European language skills.

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For an initial discussion contact our Recruitment Consultant, Paul Chambers on: 01-379 5252 (during office hours) 01-899 4768 (evenings and weekends)

Alternatively send your CV to him quoting Ref: PC/2209/9 at Greenfield Human Resources, Norman House, 105-109 Strand, London WC2R 0BZ.

ECONOMIST

We are a young and dynamic Financial Services Group, based around our well-known business in money broking. As our business has diversified into areas such as Treasury Consultancy and Leasing, we wish to recruit an able and ambitious young economist. Duties will include forecasting economic indicators and giving assessments of their implications, responding to client requests for research and information, and helping to write reports. The successful candidate will have a good degree in Economics and two to three years relevant experience. Ability to write and speak clearly and succinctly, and to work flexibly and to deadlines, is essential. Computer literacy would be a distinct advantage. The post offers an exciting opportunity for a young person with the ambition and ability to make an impact on the firm's business within a relatively short time. Opportunities for career progress in the Group's core businesses are excellent.

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Interested candidates should telephone Susan Fletcher on 01-606 1706, or write to her at Anderson Squires Ltd, 127 Cheapside, London EC2V 6BU (Fax: 01-726 4031).

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JPI in 11

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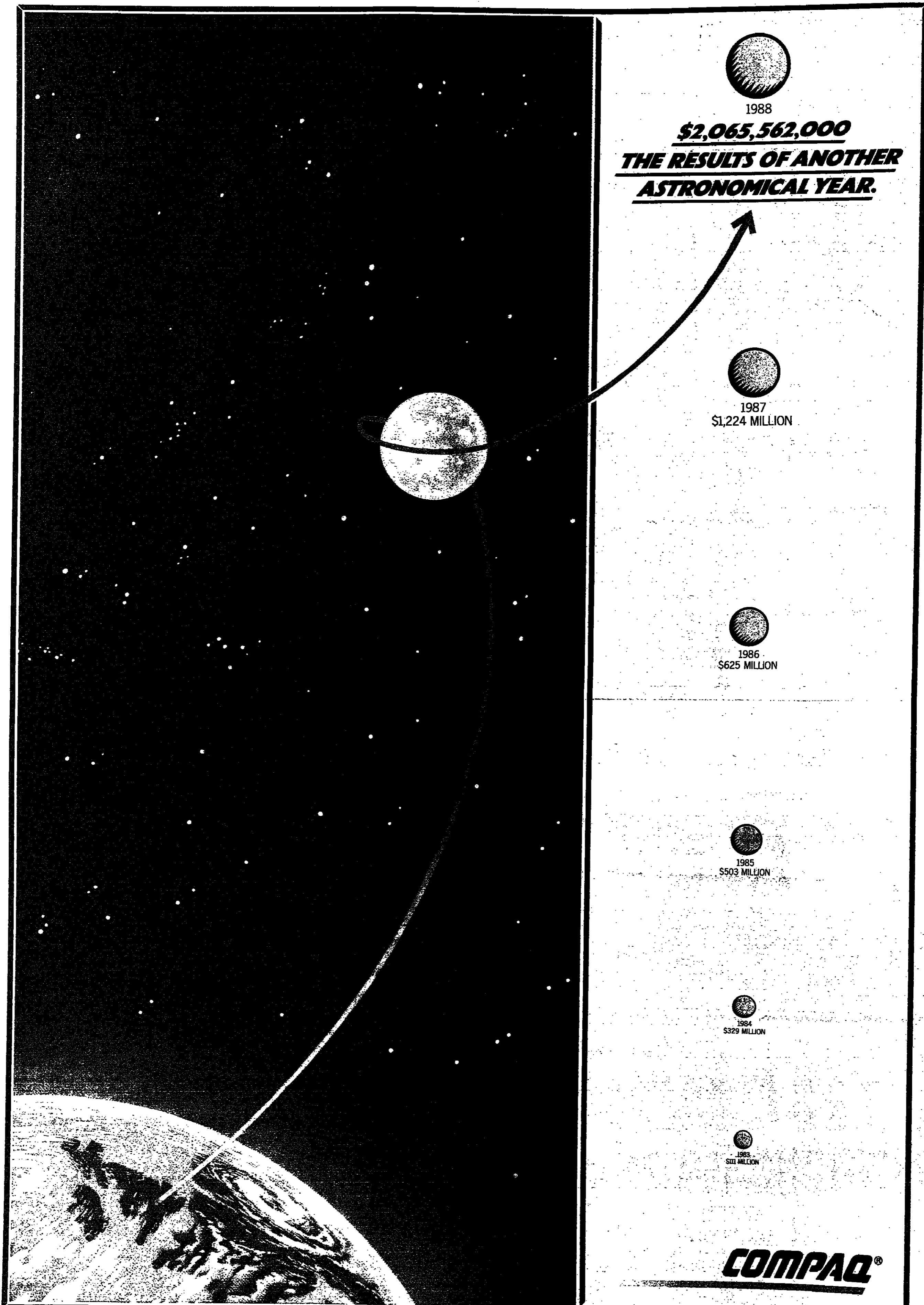
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FT LAW REPORTS

Evidence can be taken for Norwegian court

RE STATE OF NORWAY'S APPLICATION (No 1 and No 2) House of Lords (Lord Keith of Kinkel, Lord President of Oakington, Lord Griffiths, Lord Goff of Chelmsford, and Lord Lowry); February 9 1989.

THE ENGLISH court's power to comply with letters rogatory issued by foreign court requesting the examination of witnesses in civil or commercial proceedings applies to tax proceedings. In that "civil" bears its English law meaning and includes all non-criminal matters.

The House of Lords so held when allowing an appeal by the State of Norway and the estate of Mr Anders Jahre, from a Court of Appeal decision (*Norway 2 [1989] 1 FLR 233*) that the English court had no power to comply with their request for an order that Lord Kindersley and Mr A.J. Hardman should give evidence for Norwegian tax proceedings.

The Evidence (Proceedings in Other Jurisdictions) Act 1975 provides: "1. Where an application is made to the High Court . . . for an order for evidence to be obtained in the . . . United Kingdom . . . and the court is satisfied . . . (b) that the evidence . . . is to be obtained for the purpose of civil proceedings . . . before the requesting court . . . 2(1) . . . the High Court shall . . . have power . . . to make such provision for obtaining evidence . . . as may appear appropriate."

Section 9(1) "civil proceedings" . . . mean proceedings in any civil or commercial matter . . .

LORD GOFF said that in 1983 a retrospective tax assessment was raised in Norway against the state of deceased shipowner, Mr Anders Jahre, on the ground that he had failed to declare a large part of his assets. The undeclared assets were alleged to include the assets of Panamanian company, Continental Trust Co (CTC), whose shares formed part of the assets of a charitable trust. It was alleged that Mr Jahre was a settlor or in control of the trust, and was accordingly beneficial owner of the CTC assets.

In November 1983 the estate brought an action in the Sandefjord City court, to have the assessment set aside. Letters

rogatory were issued by the court, addressed to the English High Court, requesting the oral examination of two witnesses in the UK, Lord Kindersley and Mr A.J. Hardman.

Lord Kindersley was a director of Lazarus who acted as advisor to the trust. Mr Hardman was a senior employee of Lazarus who acted as assistant secretary and subsequently treasurer to CTC, until its dissolution in 1984.

The letter of request formed the basis of the first set of proceedings in the UK (*Norway 1 [1988] 1 FLR 507*).

On January 14 1985 an ex parte order, requested by the State of Norway, was made for examination of the witnesses. Mr Justice McNeill dismissed the witnesses' application to discharge the order. The Court of Appeal allowed their appeal on the ground that the order of request was in such detail that it amounted to a fishing expedition for information.

The Sandefjord court addressed a second letter of request to the English court again seeking the testimony of Lord Kindersley and Mr Hardman, but limited to specific issues and specific questions.

It led to UK proceedings in *Norway 2*. The application for the order was made by the State of Norway, supported by the estate.

The order was made ex parte. The witness applied to have it set aside. Mr Justice Kenneth Jones dismissed their application, subject to certain qualifications on the testimony they were required to give. The Court of Appeal allowed their appeal. The majority did so on the ground that the court had no jurisdiction to entertain the request within section 1(b) of the Evidence (Proceedings in Other Jurisdictions) Act 1975.

The State of Norway and the estate now appealed.

The central question was whether the proceedings in the Sandefjord court were civil proceedings within section 1(b) of the 1975 Act, having regard to section 9(1) which defined "civil proceedings" as "proceedings in any civil or commercial matter". A major purpose of the 1975 Act was to ratify the Convention on the Taking of Evidence Abroad in Civil or Commercial Matters 1970. The text of the Convention

was in English and French.

Article 1 provided that "in civil or commercial matters" a judicial authority of one contracting state might request the competent authority of another to obtain evidence.

In the French text, article 1 opened with "En matière civile ou commerciale".

The witnesses submitted that "civil or commercial matters" in section 9(1) of the Act should reflect the words in article 1 of the Convention and be given the same meaning, and should be regarded as derived from "matière civile ou commerciale".

In France, as in other civil law countries, civil matters were limited to private law, and excluded public law and fiscal matters. That approach was commanded by the witnesses as "internationalist". It was suggested it would achieve uniformity in construction.

In *Norway 1* that approach was rejected, but it found favour with the majority of the Court of Appeal in *Norway 2*.

In considering the scope of the jurisdiction conferred by the 1975 Act, it was legitimate and appropriate to have regard to the legislative history.

The first Act of Parliament concerned with the obtaining of evidence for the assistance of foreign court was the Foreign Tribunals Evidence Act 1856. There "civil matter" was given no restricted meaning and was understood in the UK as referring to civil as opposed to criminal proceedings. The same classification was applied in subsequent acts relating to the obtaining of evidence, and to extradition.

The witnesses' argument would involve a profound departure from the established legal practice of conferring a very broad jurisdiction on UK courts for obtaining evidence for courts in other jurisdictions. There was no hint in the 1975 Act that any such departure was intended.

The jurisdiction under the Act could be invoked to obtain evidence for assistance of a court in another jurisdiction in the UK. It was improbable that Parliament should have limited the jurisdiction to proceedings in a civil or commercial matter in a sense understood in civil law countries. Also, it would be strange if the jurisdiction of commonwealth com-

tries, or non-convention countries should now be limited with reference to the law of civil law countries.

Study of comparative law material revealed that it was very difficult to attribute any uniform meaning to "matière civile ou commerciale" or "civil or commercial matter" in civil law countries. The identification of public law matters differed from country to country.

The words "civil or commercial matters" in the 1975 Act could not be construed with reference to any internationally acceptable meaning. They should be construed by reference to the systems of law in both the requesting court and the country addressed. Jurisdiction would only be established if the relevant proceedings were proceedings in a civil or commercial matter under the laws of both countries.

In the present case Mr Justice Kenneth Jones concluded that under Norwegian law the proceedings in Norway would be classified as civil. He was entirely justified in reaching that conclusion on the evidence before him.

The witnesses submitted in the alternative that the State of Norway's application should be dismissed as "tax gathering" inconsistent with the principle in *India v Taylor [1859 AC 421]*. The principle, as set out in *Dicey and Morris 11th ed p 100* was that English courts had no "jurisdiction" to entertain an action for the direct or indirect enforcement of foreign revenue law.

It was recognised that the theoretical basis of the rule was a matter of controversy. The rule did not go to jurisdiction. What the English court did was to decline in such cases to exercise its jurisdiction.

Letters of request or their execution, could not amount to enforcement, direct or indirect, of foreign revenue law. There was no extraterritorial exercise of sovereign authority in seeking the assistance of UK courts in obtaining evidence which would be used for the enforcement of Norwegian revenue laws in Norway.

The appeal in *Norway 2* was allowed. Argument was heard as to costs in *Norway 1*.

Their Lordships agreed. For the witnesses: Michael Crystal QC, J.A. Johnson and John Higham (Linklaters & Paines). For the State of Norway: Anthony Boswood QC and Stephen Moriarty (Freshfields). For the estate: Anthony Boswood QC and Stephen Moriarty (MacFarlanes).

Rachel Davies
Barrister

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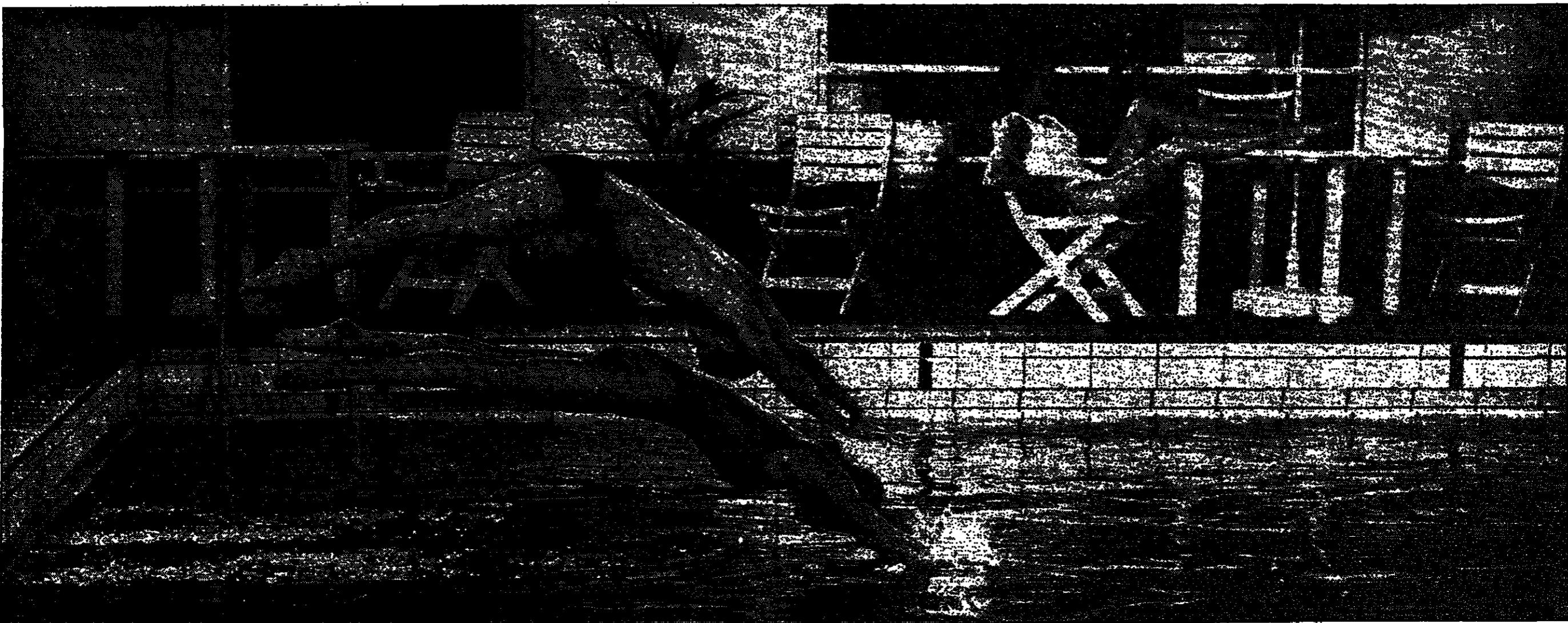
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TECHNOLOGY

Europe develops a nose for wine fraud

Cheating over the origin of wine costs the EC dearly. Clive Cookson detects an answer

When you buy a bottle of cheap French red wine, can you be sure that its contents have not been adulterated with even cheaper wine from Italy or Algeria? And when you sip a more expensive white, are you confident that the grapes has not been helped along by adding beet or cane sugar to the grape juice before fermentation?

Geographical misrepresentation and illegal enrichment of wine are believed to cost the European Community and its consumers hundreds of millions of pounds a year. Until recently no analytical technique could reliably detect this sort of fraud.

But a new method, developed in France, offers the prospect of more effective regulatory control over the quality and origin not only of wine but of many other drinks and foods. It could, for example, revolutionise the world trade in vanilla, which is plagued by the inability of conventional chemical analysis to distinguish clearly between natural and synthetic vanilla extracts.

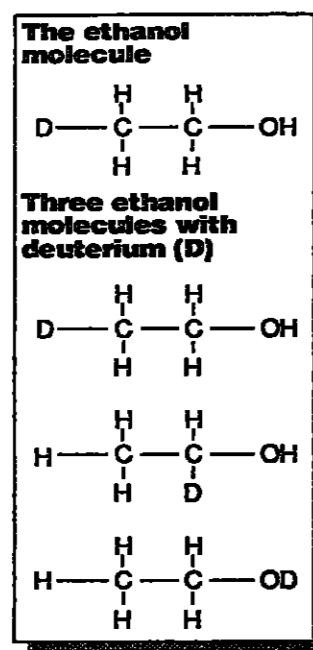
The technique is known as SNIF-NMR – standing for site-specific natural isotope fractionation by nuclear magnetic resonance. It was invented by Gérard Martin, a chemistry professor at the University of Nantes, and is being commercialised by Eurofins, a company headed by his son Gilles Martin.

Last year the EC officially adopted SNIF as the preferred method for controlling the addition of sugar to musts (grape juice before fermentation). This process, called chaptalisation, is either forbidden or strictly regulated in all wine-growing areas. The national wine authorities in France, West Germany and Italy are following the EC lead and establishing SNIF laboratories in Montpellier, Speyer and Verona respectively.

Nuclear magnetic resonance (NMR) originated as a spectroscopic method by which chemists analysed the structure of molecules. It is most familiar

as a means of detecting cancer and other diseases by computerised scanning of body tissue. SNIF takes NMR into a lucrative new field.

NMR relies on the fact that some atomic nuclei behave like tiny magnets. When they are placed in a strong magnetic field they align themselves with it. If the nuclei are then bombarded with a pulse of high-frequency radio waves, they will be pushed out of alignment. When the pulse is



finished, the nuclei settle back into line and in the process emit their own radio waves, which can be picked up by a receiver. Each atom has its own radio frequency, rather like a tuning fork resonating to a particular note.

SNIF uses NMR to measure the extent to which the hydrogen in certain natural molecules has been replaced by its isotope deuterium. Whereas the nucleus of an ordinary hydrogen atom consists simply of a proton, deuterium has a neutron bound to the proton and is therefore twice as heavy as hydrogen. Physical, chemi-



cal and biological processes enrich some materials with deuterium and deplete others.

Because the Earth's rotation forces deuterium towards the equator, the amount of the isotope present in a naturally grown product, such as wine, can be used to determine geographic origin. The nearer to the equator the grape is grown, the more deuterium it contains.

The deuterium will typically get into the grape via rainwater (or snow). Its concentrations in this source vary from 50 parts per million (ppm) near the South Pole to 180 ppm in the tropics. The effect of latitude is reinforced by the fact that grapes incorporate more deuterium when they grow in hot dry conditions than in cool wet weather. As a result, the amount of deuterium in wine alcohol varies by more than five per cent between southern Italy and Germany.

These differences can be detected by NMR machines. But what makes SNIF such a powerful technique is that it gives not only the overall deuterium concentration but also the amount incorporated into specific molecular sites.

Take the ethanol (common alcohol) molecule. As the diagram shows, there are three sites where deuterium (D) can replace hydrogen (H). It could take the place of any of the three hydrogens attached to the first carbon (C) atom, either of the two hydrogens on the second carbon, or the hydrogen attached to the oxygen (O) atom. If deuterium were distributed statistically between the three sites, so that the laboratories using SNIF-NMR will have a reliable basis of comparison," says Gilles Martin. His company, Eurofins, is building up a worldwide data bank; the EC laboratory in Ispra, Italy, plans to cover the whole of Europe; and the West German, French and Italian authorities will do the same for their countries.

"For some regions such as Cognac we already have a very good database," Martin says. "We can tell without doubt whether a brandy comes from Cognac or somewhere else."

SNIF has also been used to identify the alcohol – and hence any fraud – in other drinks. For example, it could tell whether a particular whisky was a genuine blend of Scotch malts or whether some or all of it originated in southern Europe or the Far East.

The same NMR technique can measure the amount of deuterium at specific sites in more complex natural molecules. With perfume and similar substances, SNIF can detect the difference between natural extracts and the much cheaper synthetic chemical varieties.

Vanilla is a good example. The quantity of "natural vanilla extract" sold worldwide is several times greater than the amount actually produced, because synthetic vanilla (costing \$15 per kg to produce) is passed off as the real thing (priced at \$10,000 per kg).

When scientists developed a way of distinguishing the two, by measuring the carbon-13 to carbon-12 ratio, producers of synthetic vanilla fooled the test by enriching their material with carbon-13. It would be impractical for them to get rid of the deuterium ratio at every site on the vanilla molecule.

good indication of where the grapes grew. The method is expensive – a wine sample costs about £140.

Gilles Martin expects that to come down to £40 within four years.

Analysts at laboratories such as Harwell in England have used other analytical techniques, notably mass spectrometry, to measure the ratios of different isotopes in wine – carbon-13 to carbon-12 and oxygen-18 to oxygen-16. These do not distinguish as clearly as SNIF between wines of different origins but their results can be added to the SNIF figures to give a potent method of wine identification.

The most important thing now is to build up an extensive database showing the characteristics of wine from all the important growing regions, so that the laboratories using SNIF-NMR will have a reliable basis of comparison," says Gilles Martin. His company, Eurofins, is building up a worldwide data bank; the EC laboratory in Ispra, Italy, plans to cover the whole of Europe; and the West German, French and Italian authorities will do the same for their countries.

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UN sets up biotech centre to help developing countries

By Thomas Land

AFTER several years of organisation and debate, the United Nations' International Centre for Genetic Engineering and Biotechnology is about to start work.

It has been established to seek practical solutions to a series of stubborn problems perpetuating hunger and disease in the developing world. Set up by the UN's Industrial Development Organisation (UNIDO), the primary centres are in Trieste and Delhi, and affiliated technological research institutes are being established in other countries.

At Trieste, three research groups are working on DNA replication, virology, and the conversion and upgrading of biomass (biological matter). The studies of its affiliates range from diagnostics and enzyme engineering to food fermentation.

Medicine and agriculture are likely to be the greatest beneficiaries from the biorevolution, which is expected to raise health and nutritional standards. Income and output, concludes a study published by the UN Labour Organisation.

Work of Delhi is also organised under three scientific groups covering molecular biology and plant biology. Collaborations with affiliated centres include research into nitrogen fixation, a hepatitis B vaccine and pollen propagation.

Forty countries have representatives on the preparatory committee which will support the centre during a three-year

start-up phase. Funds for the programme include a \$10m contribution from the Italian Government plus \$7m raised by Trieste. India has made a contribution worth \$17m.

The aim is to run an international centre of excellence, concentrating on problems which hamper the developing world but tend to be neglected because of commercial considerations.

It is envisaged that the affiliated centres being set up in developing countries – such as Argentina, China and Nigeria – will act as focal points in nascent local scientific networks.

Medicine and agriculture are likely to be the greatest beneficiaries from the biorevolution, which is expected to raise health and nutritional standards. Income and output, concludes a study published by the UN Labour Organisation. For example, a third of the world's food potential is now lost to insect pests and weeds. The loss is as high as 40 per cent in Africa. New resistant plants will soon reduce the loss considerably. Eventually there could be "super-crops" which shrug off diseases and pests without the aid of fertilisers or pesticides.

Directing businesses towards the right line of computerised inquiry

By Paul Abrahams

A DIRECTORY of international sources of business information has been published in the UK. Its aim is to assist business researchers and analysts to locate sources of information in Europe, North America and the Far East.

The directory is the first to contain a detailed description of on-line (available over a telephone line) databases in all 12 countries of the European Community. The author, Sarah Ball, a consultant at Coopers & Lybrand in London, believes that the book will prove of particular interest to companies preparing for the European single market after 1992.

Ball says that there is considerable ignorance in Europe about the extent of such services. In 1986, there were only 221 on-line databases in the world, whereas now there are more than 1,200.

"Managers in the US have tended to be much more in tune with the extent of information which has been made available through the expansion of on-line databases. In Europe, information has been seen as the prerogative of the librarian."

The range of information is impressive, she says. "National and international databases now exist which provide detailed information about international companies in a large number of sectors. These can be used not only to target possible merger and acquisition candidates; but also to identify credit-worthy suppliers and customers."

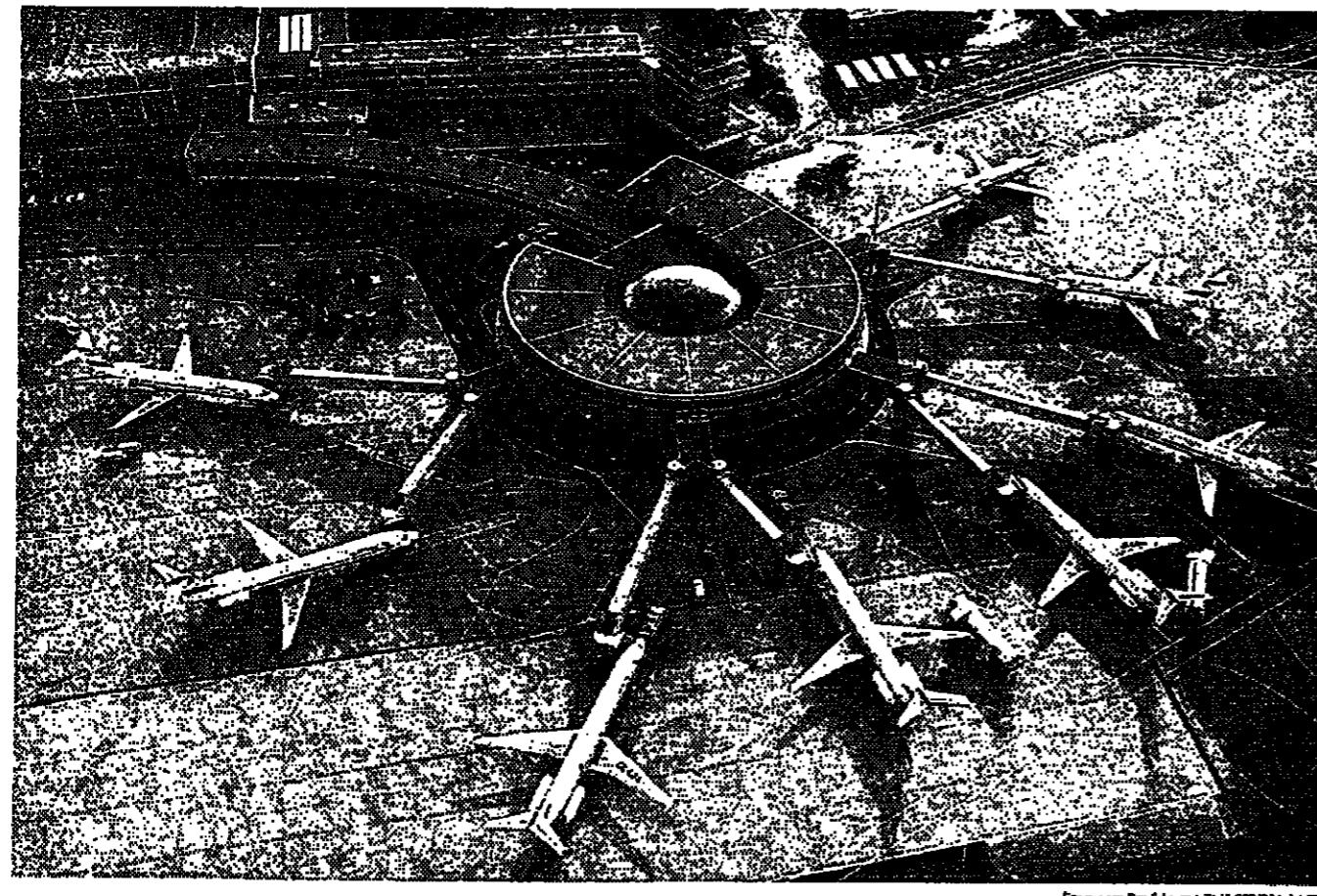
Other services accessible through computers include a database providing details about EC projects and regional benefits. Such information is often available on-line well before it is published in official journals. Details about trade fairs in the UK and on the Continent can also be accessed.

However, Ball does issue a few caveats. For example, the quality of data is dependent on the accounting methods in different countries and influenced by the reasons for the data's publication. Gaining access to the information may be easier than it was, but it still needs to be interpreted.

* The Directory of International Sources of Business Information, published by Pitman, telephone 01 373 7322.

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Wednesday February 22 1989

Freedom for UK savers

THE PRE-BUDGET clamour suggests that the main problem with UK saving is the lack of it. This fuss is a little puzzling, since national savings have remained a fairly stable share of national income throughout the 1980s. When directed at tax changes to be made in the Budget, the fuss is more than puzzling; it is misdirected.

Personal savings have declined as a share of personal disposable income in the 1980s, even though the real rate of return has been exceptionally high. This is hardly surprising. A higher average rate of return on capital makes people richer, the normal response to increased wealth being higher consumption, both now and in future.

The main effect of fiscal incentives is not on the level of savings, but on their allocation. Far from encouraging the enterprising, the Government has maintained the relative incentive to investment in owner-occupied housing and pensions, rightly stigmatised by Professors John Kay and Mervyn King, the authors of the standard work on the British tax system, as "civil servants' assets rather than entrepreneurs' assets."

Illiquid wealth

Housing (less mortgages) accounted for 17 per cent of personal wealth in 1957, but this share had more than doubled, to 37 per cent, by 1979 and was much the same in 1987. Meanwhile, pensions and life insurance accounted for 12 per cent of personal wealth in 1957. In 1979, the combined share was still only 13 per cent, but by 1987 it was up to 24 per cent. Thus owner-occupied housing, pensions and life insurance, all illiquid, accounted for 60 per cent of personal wealth in 1987, double their share a generation ago.

The dominance of owner-occupation is a significant obstacle to mobility, especially in the absence of an active market in rental properties. Similarly, company pension schemes are an important disincentive to early leavers. Even personal pensions are a constraint on those with unsettled plans or risky incomes.

If existing fiscal privileges cannot be removed, the Chancellor

Bid-proofing at the CBI

SINCE the Swiss food groups Suchard and Nestlé vied for control of Rowntree last year there has been mounting concern in British industry and commerce over the ease with which bid-proof foreign companies can eat into the quoted part of Britain's corporate sector. That concern has been heightened by the corporate reshuffling that has taken place as both European and non-European companies prepare for the completion of the single market.

The Director-General of the Confederation of British Industry, Mr John Banham, is attracted by the argument that all hostile bids from bid-proof predators should be blocked unless there are overwhelming national interests to the contrary. But, if the CBI Council decides today to support this proposal, it would probably be taking a radical and interesting step for all the wrong reasons.

Benign influence

On balance a relatively free market in corporate control has much to commend it in the absence of the performance pressure that banks and other financial institutions impose on companies in parts of continental Europe. And there is no shortage of statistical and anecdotal evidence that the foreigners who control 17 per cent or more of British manufacturing output have exercised a benign influence on British management practice and productivity.

Where British companies have a legitimate gripe is in feeling that the dice in Europe are loaded against them. Continental European bourses are much smaller in relation to gross national product than the British stock market; companies are also heavily protected against takeover by the structure of ownership, restrictive articles of association and protectionist government policy.

With British acquisitions overseas running at twice the value of foreign purchases in Britain, any demand for bilateral reciprocity would run the risk of retaliation. Yet multilateral efforts have so far achieved only mixed results. While the Swiss authorities are beginning to acknowledge that they cannot expect to go on

Max Wilkinson examines British Gas's clashes with the industry's regulator Time of trial for Sir Denis

When British Gas was sold into the private sector just over two years ago, Sir Denis Cooke, its chairman, said it would be run in just the same way as when it was a nationalised industry.

"We will have the same board running the same business . . ." he said. He was right about the board; that has scarcely changed. But Sir Denis must surely be in danger of an attack of vertigo when he surveys the changes now being forced on the company.

It has been told by the Monopolies Commission to alter radically its method of charging for gas supplied to industry - where high volume users negotiate contracts for their supplies. It has lost its *de facto* position as the sole purchaser of gas from the UK sector of the North Sea. It is being forced to open up its pipelines to competitors, probably on terms which it cannot choose. On top of all this, it is being pushed into a change in its accounting system intended to flush out for the first time the precise allocation of costs and profits in the three separate parts of its gas business.

These changes all end up affecting the company's industrial sector which last year made a profit of £291m, representing about a quarter of total pre-tax profits for the year. Taken together, they add up to a serious threat of competition in this sector - one which, at the time of privatisation, was generally assumed to be a "no-go area" for Mr James McKinnon, director general of the Office of Gas Supply (Ogas), the industry's regulator.

So what went wrong for British Gas and the millions of people who bought its shares thinking that the gas monopoly would be carried serenely from the state enterprise into the land of private profit?

The trouble started only a few months after privatisation when British Gas plc picked a fight with Mr McKinnon, and was promptly knocked down. The issue, which appeared deceptively trivial at the time, was whether Ogas should be shown the detailed purchase con-

tract for North Sea gas.

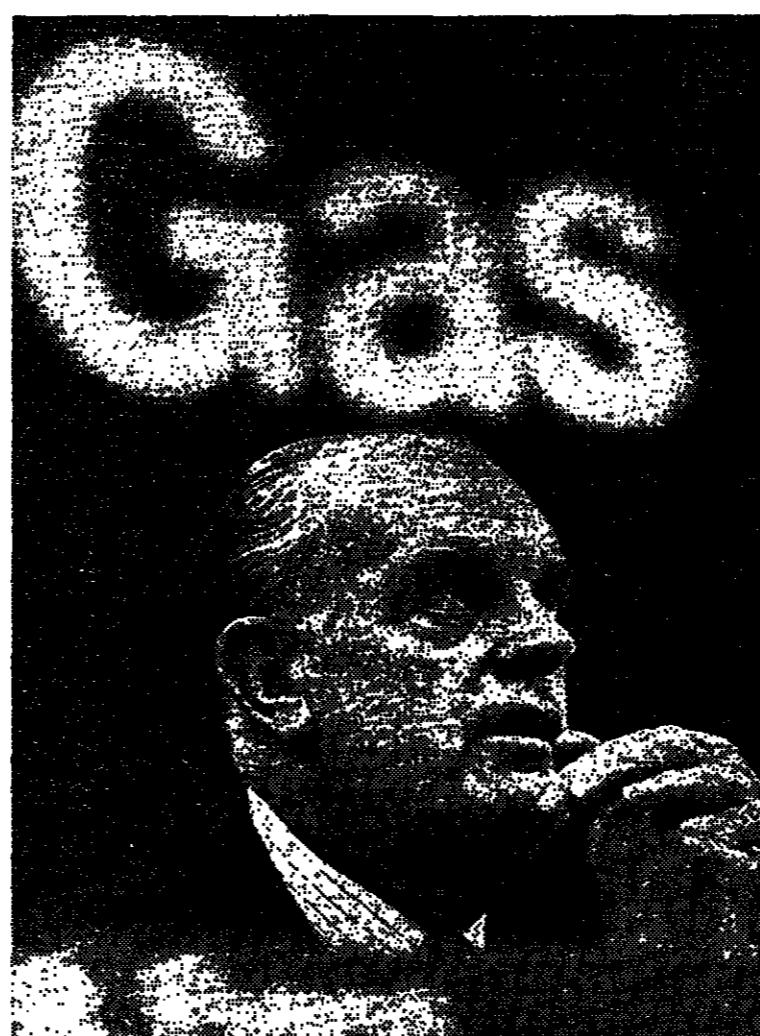
British Gas said the regulator needed only the average cost to check that domestic consumers were not being over-charged under the price formula laid down in the Gas Act. After threats of court action, the full figures were produced, and the inci-

The trouble started when the corporation picked a fight with the regulator and was promptly knocked down.

dent seemed closed. However, this proved to be only the first of what Mr McKinnon describes as "a series of miscalculations" by British Gas about the new and unfamiliar politics of regulation.

Sir Denis and his colleagues repeatedly failed to realise how tough this Glaswegian accountant was prepared to be. More seriously, they appear to have under-estimated the speed with which public opinion and political influence was swinging behind the new regulator.

This was hardly surprising because the old public service attitudes are still deeply embedded at British Gas. In 13 years as chairman, Sir Denis has often been cast as champion of the consumer in historic battles with Treasury knights against "unwar-



Sir Denis Cooke: deeply identified with the old system

ranted" price rises and other interference. In the past he was armed with an Act of Parliament which vested him with a duty to serve and supply.

But the Gas Act of 1986 is quite different. It treats British Gas plc as a profit-maximising monopoly, establishing Ogas under the general eye of the Monopolies Commission as guardian of the public good.

In the battle of the last two years,

Mr McKinnon has proved to be at least equal to Sir Denis's legendary toughness, and cooler under fire. With a canny instinct for public relations, he has turned the tables on Sir Denis by citing general provisions of the new Act (like his duty to promote competition) to establish a much stronger regulatory regime than many critics had believed possible.

It is important, however, to keep the new pressures in perspective. British Gas derives enormous strength from its licensed monopoly in the "tariff sector" of the market, which accounted for more than 60 per cent of its gas sales and about three quarters of its revenues last year. Price rises for tariff customers - domestic users and about 20 per cent of the industrial and commercial sector - are fixed by a formula which allows changes in North Sea gas costs to be passed straight through to the customer. However, the remaining part of the price - reflecting the non-gas costs - must be reduced by 2 per cent per year in real terms. So, if British Gas can keep reducing its costs, revenues from this sector are copper-bottomed, at least until the present for-

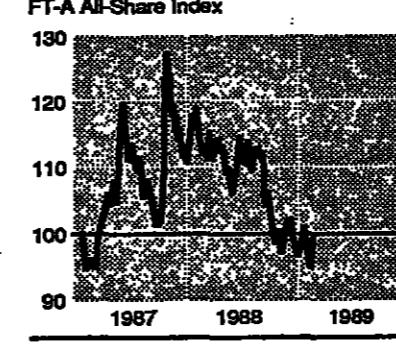
mula comes up for revision in three years' time.

Although the opening shots concerned the tariff formula, the main battleground between British Gas and its regulator has been in the contract sector, for customers taking more than 25,000 therms a year. At the time of privatisation, the corporation persuaded the Government that it should be able to charge whatever it liked in this market on the grounds that it was in direct competition with other fuels, including oil, coal, electricity and liquid petroleum gas.

However, in 1986 just before British

British Gas

Share price relative to the FT-A All-Share Index



Gas was sold, oil prices had halved, dragging down North Sea gas prices after a few months' delay. The company was required by the tariff formula to pass on the benefit to its domestic customers and it was

obliged by competitive pressure to make deep price cuts for those industrial users which could switch to oil.

The company made what now appears a grave mistake in refusing to cut prices to several large captive customers including Sheffield Forgemasters, which complained to the Office of Fair Trading. This led to a reference to the Monopolies Commission, which concluded that British Gas had been abusing its monopoly.

The three remedies endorsed by the commission, which appear to follow Mr McKinnon's suggestions closely, were all designed to encourage competition from rival gas suppliers:

- A requirement that British Gas must publish and adhere to a schedule of prices in the contract market would give competitors a target to shoot at.
- A requirement that detailed pipeline tariffs should be published would ensure that competitors could get gas to their customers.
- A rule that British Gas could buy only 90 per cent of the output from any new gas field would ensure that competitors could get supplies.

Mr McKinnon comes out of all this with strong powers to enforce fair terms for the use of British Gas's pipelines by a competitor ("common carriage") and to monitor the price structure for industrial customers.

Even before the Monopolies report, however, he had been vigorously cheering on the cause of competition. Just over a year ago he published a report pointing out that British Gas was charging industrial customers up to 34p per therm compared with its cost of new gas supplies of about 15p to 23p per therm. With pipeline charges around 4p per therm, the potential for profit is obvious.

But the turning point in the relationship between British Gas and Mr McKinnon was at a meeting in April 1987. Mr McKinnon demanded detailed figures which would allow him to allocate costs and profits as accurately as possible to the three major parts of the gas business: the tariff sector, the contract market and the pipelines.

This was strongly resisted, partly because information confers power and partly because British Gas did not have the analysis he wanted. It still allocates its costs by the rather general averaging method approved of an integrated state monopoly.

Mr McKinnon was told he must calculate a detailed breakdown of profits to judge how the price formula should be revised after the allotted five years. If he did not have the data, he would make a guess. Then who would be the public believe, him or British Gas? Sir Denis astonished some of his colleagues by clinching the argument in the regulator's favour. He told his colleagues to hand over the figures. The consequences, which are only now becoming evident, could have a profound effect on the way British Gas looks at its business.

The two sides are still arguing over how to construct a system for allocating costs. But British Gas will have little option other than to accept the regulator's view. For in the case of a dispute, Mr McKinnon has power to set charges for the use of British Gas's pipelines on the basis of his, not the company's, calculation of its costs and profits. The first test case is now before him and he has a draft direction ready to publish.

In the longer term, Ogas's view of the internal accounts will also be the major factor in setting domestic gas prices, as Sir Denis recognised almost two years ago. What remains? An

industrial sector in which Ogas will supervise the pricing schedule (though not actual prices) and where the Monopolies Commission has deliberately loaded the dice in favour of would-be competitors to British Gas.

This by no means spells disaster for the company. Mr Bob Evans, the chief executive, emphasises that gas is still a growing market with, for example, 300,000 new central heating systems sold last year. The company, he says, is becoming steadily more efficient and attracting more and more customers.

Nevertheless it is clear that the old order is changing. Some senior people in British Gas doubt whether the oil companies will want to abandon a cosy relationship which gives them profits on North Sea gas without the bother of marketing it. Certainly, the oil companies are trying to resist the new 90 per cent rule, but not many people are betting they will succeed. If the Office of Fair Trading forces them to sell only 90 per cent, they will have to compete in the industrial market with the remainder.

One response of British Gas has been to use its strong cash flow to move back into oil and gas exploration, so far with mixed success. It bought a majority in Bow Valley in Canada on rather odd terms at what now seems a high price, failed rather embarrassingly to buy Petrocorp, the New Zealand Gas company, but snapped up Acre Oil in the North Sea and the oil assets of Houston-based Texaco for a total of \$455m. Then it failed in a dawn raid to take over London and Scottish Marine Oil, the UK independent, despite lengthy talks with its management about a "friendly" bid.

Although this exploration and production business represents only 10 per cent of profits, the company's underlying financial strength could allow it to grow rapidly, but British Gas has not yet decided how it will manage its new portfolio. The Texaco assets, for example, are still being run by the old Texaco managers under very general supervision from London.

This raises much the greatest uncertainty of all about British Gas - the ability of its top management to adapt to the constraints of the new regulatory world and at the same time to seize the opportunities open to a private company. Sir Denis, who is off in April, is thought to want to go this year. He is in any case deeply

The greatest uncertainty is the ability of top management to adapt to the constraints of the new regulatory world.

identified with the old system and never cared much for privatisation.

But its dominance in British Gas has created, in the words of one Whitehall wit, "a circle of eternal duties" beneath him. If the successor were chosen by the laying on of hands, it would probably be Mr Evans, but he, too, is a gas man of the old school and very much in Sir Denis's shadow.

Few in the City, or in Whitehall, doubt that an infusion of new blood is now needed. In a detailed study of the company, the broker, Smith New Court, cautiously observes that an internal appointment would make it "likely that the transition from nationalised industry to mature plc will continue at a relatively slow pace."

A Finn takes to tennis

Against that background many CBI members will interpret the proposal to refer automatically all bid-proof predators to the Monopolies Commission as a subtle way of achieving reciprocity by the backdoor, subtle, in the sense that even liberal economists would agree that ownership by invulnerable predators should not be allowed to reduce the overall level of competitive pressure in the British corporate sector.

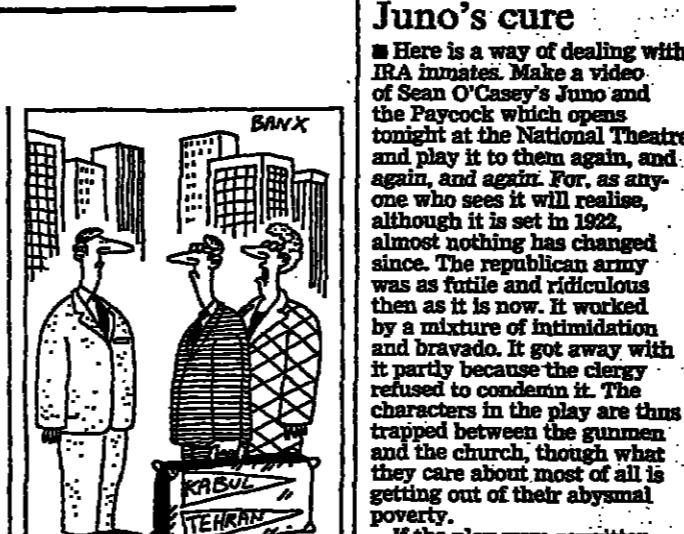
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OBSERVER

few days where it is going:

Juno's cure



"Norman hasn't got a proper job - he's a diplomat."

Like that. Nevertheless, all the accounts were destroyed in the blaze - the Society is inviting creditors to say how much it owes them - and the building will remain evacuated for at least six months.

The Society has been overwhelmed by the offers of help both from the neighbouring clubs and from its clients. The Royal Society, the Turf Club, the Imperial Cancer Research Fund and the RAC Club all messaged in at once. Clients who have offered alternative premises include John Laing, the construction group, in Mill Hill, Marks and Spencer in Chiswick and the Post Office in Croydon.

The Post Office offer is the most intriguing. Last year the Union of Communications Workers took the Post Office to court for trying to make its members take part in team briefings organised by the Industrial Society. The union lost. The Society, which specialises in easing industrial relations, will decide in the next

Silly mistake

A correction in the current Drug and Therapeutic Bulletin,

a fortnightly publication for doctors and pharmacists,

reads: "MANAGEMENT OF SERIOUS PARACETAMOL POISONING" (2 December 1988).

Under the section on encephalopathy we said the patient should be nursed at 30-40 degrees. This referred to the angle in bed - not the temperature."

Friendly Clubs

The Industrial Society - the building, not the concept - was burned down last Thursday. Or rather burned up. The fire started at the top of the Society's headquarters in Carlton House Terrace in the heart of London's Clubland. It was 8.30 pm, the building was unoccupied and no one suspects arson or anything

Handy girl

The young secretary was telling her friend about the evening she spent with her boss. "We had a wonderful meal," she said, "and when he took me back to his Mayfair flat he showed me a wardrobe with six mink coats in it - and he gave me one." "What do you have to do?" asked the friend. "Just shorten the sleeves," she said.

Ebel
Les Architectes du Temps
1989
G. TROZEN

JPY in 100

Kevin Done looks at Volkswagen's plans for manufacturing small cars in Spain

Volkswagen is looking to Spain to ensure its survival as a competitive maker of small cars in the 1990s. As West Europe's leading automotive group, it is burdened in its West German base by some of the heaviest manufacturing costs in the world motor industry.

Two years after acquiring a majority stake in SEAT - the former loss-making Spanish small car producer which was for a long time one of the European motor industry's poor relations - Volkswagen is aiming to spend Pta 670m (£3.3bn) to transform SEAT's outdated manufacturing plants into one of the most cost-efficient assembly operations in Europe.

At the same time it will renew the SEAT model range to base it fully on Volkswagen components - most importantly engines and transmissions - and replace its dependence on Fiat technology. At the heart of the investment programme is the construction of a new Pta 220m assembly plant able to produce 340,000 cars a year.

VW's conversion to small car-making in Spain has come late in the game - Renault, Peugeot, Ford and General Motors are already well-established. However, it hopes that the heavy commitment to SEAT will give it a cost-effective production base for small cars in southern Europe. From here it will be able to challenge the small car leaders of Europe - Fiat, Peugeot and Renault - and fend off the challenge from Japanese production in Europe in the 1990s.

The small car market has grown faster than other segments. It is a market where price is crucial, and West German costs make small car manufacturing increasingly prohibitive. According to the VDA, the West German motor manufacturers' association, total wage costs per hour in the West German industry at DM 38.49 (£1.8) exceeded any other car-making country in 1988 and were 75 per cent higher than in Spain (DM 21.56), while West Germany was close to the bottom of the league for the number of hours worked per employee.

An important marketing attraction for Volkswagen is the addition of a third marque to its existing VW and Audi name-plates, an invaluable extra weapon in the struggle unfolding between VW and Fiat for European market leadership. The two groups tied in a dead heat last year. The Fiat group marques include Lancia, Autobianchi, Alfa Romeo, and Ferrari. Reliance on a single name-plate has already seen Ford and Renault slipping down the European sales league.

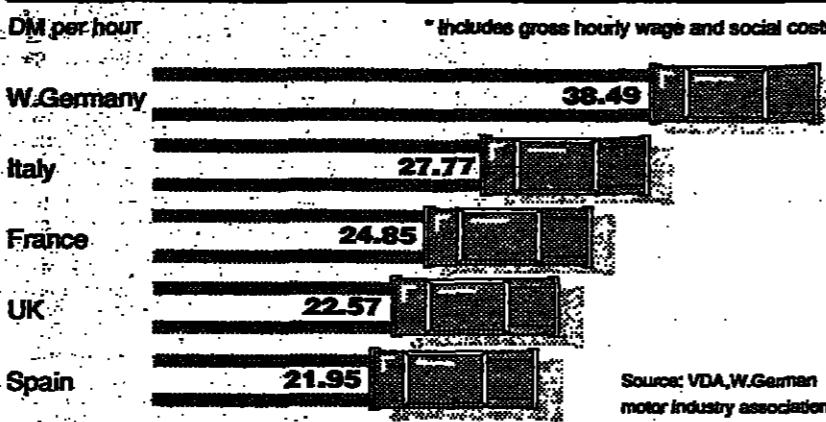
The challenge facing VW is to rationalise the SEAT model range and production facilities along the same lines that Fiat and the Peugeot group (which includes Citroën) are successfully achieving with their different name-plates.

According to Mr Friedrich Goss, SEAT executive vice president for product engineering, about 60 per cent of the manufacturing cost of future SEAT models could be represented by components common to other VW models such as engine and transmission casings, parts, axles, brakes, electrical com-

Survival of the fittest

SEAT Group		Source: SEAT	
Production	Profit/loss (Pta/bn)	Source: SEAT	Profit/loss (Pta/bn)
Cars & car-derived vans SEAT/VW models	Parent company only		
1984 279,031	1984* -36.1		
1985 320,311	1985* -36.6		
1986 338,548	1986 -27.4		
1987 406,391	1987 -3.3		
1988 433,482	1988 +1.8 Estimate		

European motor industry labour costs* 1988



Source: VDA, W.German motor industry association

ponents and seat structures. "If you build like this on VW components and attract a customer who would not buy a Polo or a Golf, you are selling 60 per cent of an otherwise unsold Volkswagen." Future SEAT models will fill the gaps in Volkswagen's present range of Polo, Golf and Passat, and all new models will exclusively use Volkswagen engines and transmissions.

In order to compete on prices and costs with both Japanese and South Korean imports and with the most cost-effective European-built small cars, VW is aiming to transform SEAT's antiquated manufacturing plants with the investment of Pta 515m between 1989 and 1993 on plant and equipment, facilities and tooling. A further Pta 150m will be spent on product development and project planning.

Mr Juan Antonio Diaz Alvarez, chairman of the SEAT management board, says that SEAT is planning to double its productivity, while substantially increasing its production capacity, reducing its workforce and out-sourcing many of its components.

The new assembly plant is to be situated at Martorell, 30 km north-west of

Barcelona. With a planned cost of Pta 220m it will be able to produce 1,500 cars a day and is due to begin operating by the end of 1992. In a move unprecedented for the European motor industry, the plant will operate round the clock on three shifts a day. "We cannot make such a big investment and not use it 100 per cent," says Mr Diaz Alvarez. "Soon we must also talk about seven days a week including holidays. It is not part of the plan but I am convinced this will come. Look at the Japanese, they are there already."

The plant will not be highly robotics, except in areas where robots are required for quality or safety reasons. "We have to keep clear that the costs of capital in Spain are double, but the costs of labour are half the German level."

SEAT's present manufacturing set-up is the product of a bygone age, but this will change significantly. SEAT is planning to shed many of its own components operations while benefiting from the economies of scale offered by drawing in components from Volkswagen's high volume global components operations spread between West

Europe, Latin America and South Africa. SEAT will focus its operations tightly on the core activities of body design and engineering and vehicle assembly. "For the rest we will draw from the VW toy-box or from outside suppliers," says Mr Goss. Even for the design function, SEAT is looking outside and will rely heavily on the talents of leading Italian stylist, Mr Giorgio Giugiaro, and his Italdesign studio.

"We must reduce our break-even point to 70 per cent or even lower," says Mr Diaz Alvarez, "to be competitive on price and cost and survive fluctuations in the market. Outside suppliers can often do the job cheaper and more efficiently in smaller operations. Their labour costs are lower and they normally work longer hours."

SEAT will cease producing its own specific engines. Instead it will import basic engine block and cylinder head assemblies from VW engine plants outside Spain, and then "dress" the engines locally with fuel, exhaust and ignition systems on new engine assembly lines to be installed at both Martorell and Pamplona car plants.

According to Mr Diaz Alvarez, SEAT is aiming to shed operations with around 3,000 jobs from its 23,500 workforce in a four-year programme by the end of 1992. By 1995 the workforce should have been reduced further to 19,000, allowing for a leap in productivity from 17-18 cars per employee at present to 31 in the mid-1990s.

Behind these figures lies an ambitious VW plan to expand capacity. Under the existing SEAT spending plan, production could rise by a third to 570,000 cars a year by 1994 with 420,000 SEAT cars plus 150,000 VW Polos.

Senior VW managers suggest that SEAT could play an even more significant role as a VW European production centre in the 1990s. It is an open secret that Volkswagen management would like to move all production of the VW Polo small car to the presently under-utilised Pamplona plant. The move has been blocked so far by trade union opposition at VW's Wolfsburg headquarters, but SEAT insists that it would be far more economical for VW to meet its Polo requirements at Pamplona. The move will probably be made in the 1990s. Such a move could increase Pamplona production to more than 1,000 units a day from 512 at present. The assembly of an additional 1,000-1,200 cars a day at Zona Franca could easily take VW's total production in Spain to 300,000 cars a year by the mid-1990s, a double of present levels.

There is a long way to go to realise this ambition. SEAT was only marginally profitable last year with earnings of around Pta 1.5bn, but it has made great strides in the last two years from showing a loss of Pta 27.4bn in 1986. Last year's profit was its first in 11 years. Mr Diaz Alvarez is concerned that labour and political unrest in Spain could undermine some of the competitive advantages the country's motor industry has enjoyed in recent years, but he still insists optimistically that "by 1993-94 we will be fully competitive."

This frame of reference is unacceptable narrow for a savings medium of significant importance to the economy, and, in particular, to the savings behaviour of lower income groups.

Indeed, the whole exercise draws attention to the increasing need for a more sophisticated policy options refer to them.

The application of such an approach to the life assurance proposals directs attention to some important but neglected issues.

First, there is convincing evidence that life assurance is the dominant form of long-term saving of a significant sector of the community, most of whom are in lower income-brackets.

For this group, the savings

Taxation of life assurance Policy for a libertarian caring society

By Jack Wiseman

The UK Inland Revenue has made proposals for change in the tax treatment of dependency to one of culture and enterprise, and promises an imminent decision.

The empirical foundation for the Revenue's belief that life assurance still enjoys significant fiscal privilege is dubious. But the consultative document does provide an opportunity to consider wider issues of policy.

The reforms offered, one of which the document says, must be chosen, all imply a reduction in the yield to savings through life assurance. This is an untenable position viewed against the broader philosophy of policy which I believe.

The proposals are part of the process of UK tax reform which began with the 1984 Budget - of which the central theme was the tax treatment of savings behaviour by higher income groups.

Here, citizens are more doubtful as to the extent to which the free market will be allowed to run. This is evident in areas such as the delivery of health care. But it needs to be recognised as relevant to other areas, including life assurance.

A more appropriate paradigm for the consideration of policy in today's UK economy is that of public choice, which extends the concept of choice-through-markets to embrace all social choice situations: the choice of governments and constituents as well as oranges and apples.

The libertarian version of

this model, which treats the values of all citizens as carrying equal weight in the evaluation of policy, expresses very well the underlying goals of the Conservative "escape from dependency." But it also calls into question the notion that the casualties of change, which are the unavoidable consequence of the shift from government to personal responsibility and of the enhanced rate of economic growth, can be adequately provided for by the growth of private charity.

Second, life assurance is a significant component of household saving, which, in turn, must become the increasingly predominant source of support for the investment that will be needed if the present rate of growth of the economy is to be sustained over the long term.

In sum, the broader policy framework suggests that the proposals are misguided in principle, and that the anomalies which the document addresses are, in any case, much less important than other anomalies in savings and related markets.

The time and effort being expended on life assurance taxation would be better devoted to devising a phased package of policies - combining benefit from tax rate reductions and loss of specific tax privileges - designed to reduce middle-income fiscal dependency. It is through such policies that the Government will retain the support for libertarian ideals of those most likely to begin to doubt the virtues of its policies.

* The argument is more fully developed in the author's *Long-term Savings in an Enterprise Economy*, David Hume Institute, Occasional Paper No. 10

LETTERS

Australia needs tough measures

From Mr Peter Frankel.

Sir, I forecast in your column some months ago that Australia was heading towards a serious debt situation. Chris Sherwell's report (February 17) confirms my worst fears.

The surprise is that nobody should be astonished, even at the immense error in the budget forecast (I suggested at the time that the forecast was wholly incorrect).

Three factors have dominated the Australian economy since 1983:

- A high interest rate, which resulted in reputable banks, merchant bankers, money market operators, analysts and economists all touting the Australian dollar as a get-rich scheme for people who wanted very high returns at apparently very little risk. This made the Australian dollar the

bifth or sixth most traded currency in the world; a position it neither deserved nor could sustain.

• The unwarranted strength of the Australian dollar - entirely speculation driven - created anomalies of increasing export prices to the extent that exports of some farm and most non-farm products were paralysed. But imports increased at a dramatic rate because of the ever-present "dollarisation" of consumer goods.

Australians have learnt to live within the means.

- In the interests of their shareholders Australian companies would certainly have invested overseas, with a very cheap entry because of the unrealised and then value of the Australian dollar.

In addition to this state of affairs, tourism increased

even if it disturbed the Australian ethos of wanting to "buy foreign" and wanting to pay for everything by credit card.

Third, a declaration of a national export emergency - as in Britain in the 1940s - should be made, and exports stimulated by any cost effective means.

Lastly there should be a slow reduction of interest rates, coupled with a moratorium on salary increases at any level for at least 12 months.

Perhaps the shock of the January figures may finally bring about responsible action. Otherwise, eventually, the International Monetary Fund may have to be called in.

Peter Frankel
Casa Postal 1021,
Marginal-Cascais,
2751 Cascais Codex,
Portugal

Price and profit in water

From Sir Frederick Corfield.

Sir, Mr Nicholas Ridley, the Environment Secretary, is reported (February 13) as contending that the statutory water companies' proposed "price jump of 30 per cent to 50 per cent... proves the point that we need price control."

In fact it is needed only to fulfil the Government's repeated promises to ensure, on privatisation of the water authorities, what it calls "a level playing field."

But without this jump, on becoming public limited companies the companies cannot hope to compete with the privatised authorities for equity

capital. While the companies are not to be compelled to become a plc, the Government can hardly argue that it wishes to retain "an outdated method of forming a business" which inhibits enterprise (see the white paper, paragraph 42).

Of course, it can equally well be argued that the companies' lower charges, and the fact that they have, in general, kept annual increases in charges below the rate of inflation, indicate that profit limitation provides effective price control. It is certainly much less costly and bureaucratic than that proposed - which is to have no statutory basis. On the con-

trary, the Secretary of State will have discretion to impose the requisite conditions in appointing companies as water or sewerage undertakers.

The charging formula set out in the model instrument of appointment will require substantial, highly qualified staff for its enforcement. The cost is to be passed to consumers in higher charges, and it will prevent the companies from catching up with the privatised authorities once it is in operation.

Frederick Corfield,
Worleys Orchard,
Sherborne,
Stroud, Gloucestershire

gains make only a small impact on costs and charges.

It should be recognised that with prices constrained, the real incentive for a plc is to reduce all its outgoings. In the water industry this creates pressure to cut the largest single item: expenditure on capital assets, 70 per cent of which comprise 500,000 kilometres of underground mains and sewers. It is not difficult to identify the tempting target.

Under-investment in maintaining the system is hard to determine in the short-term. One generation of shareholders and managers can enjoy profitable times while building a backlog of neglect to be faced by a succeeding generation of

customers.

This inbuilt threat to services is an important reason why the plc approach to privatisation requires a director general of water services (with the unenviable task of keeping an eye on 10 - possibly 38 if the statutory companies change their status - plcs).

The statutory companies have operated successfully for over 100 years without this kind of regulator: a proven solution to an old-fashioned problem because their priorities are the right way round.

They work for customers first; plcs work for shareholders.

R.A. Marshall,
22 Ruskin Close,
Rugby, Warwickshire.

Motor Agents Association,
201 Great Portland Street, WI

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Six oil-producing nations agree to limit exports

By Steven Butler in London

SIX oil-producing countries agreed in London yesterday to limit oil exports during the second quarter of the year to lend support to efforts by the Organisation of Petroleum Exporting Countries to stabilise oil markets.

A statement issued after the meeting of technical experts said a majority of participants agreed to cut exports by a specific, although undisclosed percentage. Others agreed to an

export freeze or would consult with their governments to determine any contribution.

The six countries were Angola, China, Egypt, Malaysia, Mexico and Oman. Attending as observers were the US state of Alaska, the Canadian province of Alberta, Colombia, Norway, the Soviet Union and the Yemen Arab Republic.

It was unclear if any observers would be willing to support the measures, although the

Soviet Union had been expected also to offer to cut exports.

Representatives leaving the meeting said that announcements of details of commitments made by specific countries would be made by ministers in the next week. However, it is believed that the export cuts could amount to between 200,000 and 300,000 barrels a day.

The cuts appear to be unilateral and not contingent on any

reciprocal response by Opec. The experts expressed satisfaction with the most recent Opec production agreement, which set a target for Opec output at 18.5m b/d, and expressed gratitude for "growing improvement in achieving the agreed Opec production targets."

Estimates from the Opec secretariat in Vienna have put Opec production within quota, with the exception of the United Arab Emirates. How-

ever, these estimates are widely discounted in the oil industry, where Saudi Arabia, Kuwait, the UAE and Iran are believed to be producing oil well above their Opec quotas, raising total output to more than 19.5m b/d.

It is unclear how much of this production falls under the Opec quota definition, which would exclude additions to stock.

Commodities, Page 34

World leaders march to Hirohito

Statesmen gather to bury him — not perhaps to praise him — and to honour an economic superpower, writes Ian Rodger from Tokyo

War row smoulders on

A FRESH row over the role played by Emperor Hirohito in the Second World War has broken out only two days before his funeral, writes Ian Rodger.

Analysts in China and South Korea have seized on remarks made by Mr Noboru Takeshita (right), the Japanese Prime Minister, in the Diet (parliament) last Saturday as showing that the Japanese have still not accepted responsibility for their behaviour during the war. They also objected to remarks by Mr Osamu Ajimura, director-general of the Cabinet legislative bureau, that the Emperor bore no legal responsibility for Japan's conduct during the war.

Mr Takeshita was asked by

Mr Tetsuzo Fuwa, a Japanese Communist Party member, whether or not the war launched by Hitler was a war of aggression. He replied that there were various theories on what constituted a war of aggression, and that it was "very difficult to academically define a war as a whole as a war of aggression". Mr Fuwa then recited various acts of Japanese aggression on its Asian neighbours during the war and asked Mr Takeshita what his attitude was towards the war. The Prime Minister replied: "There are various arguments on whether the past war was a war by accident or for self-defence. I believe, however, that it is the historian's task in later ages to form a conclusion on whether or not it was a war of aggression."

In response, a South Korean newspaper demanded that the

Japanese Government admit responsibility for acts of aggression during the war, and Korean students demonstrated in protest against the plan by Mr Kang Young Hoon, the Prime Minister, to attend the funeral.

Chinese newspapers seized on Mr Ajimura's remarks, quoting one historian to the effect that the Emperor was present at all meetings at which important decisions were made concerning the conduct of the war.

Yesterday, in an attempt to define the issue, Mr Sosuke Uno, the Japanese Foreign Minister, said Mr Takeshita had not explained Japan's position fully. The Government acknowledges that it inflicted great damage on its neighbours during the war. It will try to explain its position to the countries concerned through diplomatic channels.

Japan. Mr Bob Tizard, New Zealand's Defence Minister, said last month that any expression of sympathy for the Emperor "grates against my back teeth", but Sir Paul Reeves, the country's Governor-General, is in Tokyo. British veterans may have protested about the Duke of Edinburgh attending, but he too is there, and the early announcement of the UK's plans probably added respectability to the importance given by Mr Bush. Even the Dutch, who agonised for weeks over Hitler's Second World War memories, ended up sending their Foreign Minister.

But the big numbers are made up by developing countries. Many of them would have wanted to attend as supplicants to the new big source of financial assistance; others perhaps decided after a friendly nudge from their rep-

resentative for Japan's burgeoning aid effort.

Mrs Corazon Aquino, President of the Philippines, is in Tokyo, as is General Sumar, President of Indonesia. The presence of Prince Norodom Ranariddh, personal representative of Prince Norodom Sihanouk of Democratic Kampuchea, reflects Japan's emerging position as a political problem solver. General Ibrahim Badamasi Babangida, President of Nigeria, heads a distinguished parade of leaders from more than 30 black African countries. Nigeria's unhappiness about Japan's recent trading record with South Africa may have been assuaged by Tokyo's help with much-needed loans. Other African leaders may have noticed that Japan has begun to pour significant amounts of aid into Africa.

Only the European Commission appears to have deliberately downgraded its presence, sending Mr Frans Andriessen, a Vice President, rather than Mr Jacques Delors, the President. Analysts in Tokyo wonder if this reflects the quaint view found in some quarters of the EC that Japan is still just a nuisance that creates trade problems, not an increasingly important and powerful ally.

Whatever their official reasons for going, many of the visitors probably wanted also to see and assess for themselves the country that has come from nowhere to occupy such an important place in the world.

Dazed by jetlag, whisked about Tokyo for a day or two in hermetically sealed cars from airport to hotel to government guest house to funeral and back to the airport again, they will, however, have little opportunity to see much of Japan.

Perhaps there is not that much to look for. A Western diplomat who has just returned to Tokyo was asked last week about his impressions after a 10-year absence. "Nothing terribly original," he answered. "One is struck by the wealth, the confidence. The Japanese are really on top of the world."

The Emperor's funeral on Friday morning can only add to those feelings.

Tax threat to Soviet co-operative movement

By Quentin Peel
in Moscow

THE Soviet Union's tiny but rapidly-growing co-operative movement, a key element in Mr Mikhail Gorbachev's efforts to galvanise the economy, is facing threat from tax legislation approved by the ruling Politburo.

The 15 republican governments in the Soviet Union have been given a free hand on the tax rates they will choose to impose on co-operative ventures, with no ceiling on the level at which they should be set.

The decision could mean the introduction of swinging tax rates because of widespread public resentment at the high prices charged, and high wages paid, by the new ventures.

At the same time, the taxes will be imposed on "gross income" — before allowing for wages and investment in future production — rather than net profits.

The plans were condemned yesterday by Mr Lev Nikiforov, a leading specialist in the co-operative sector at the Soviet Academy of Sciences Institute of Economics.

The draft law was drawn up after earlier attempts to impose steep taxes on the semi-private sector were blocked last year by economic reforms.

However, Mr Nikiforov warned that the latest version could still result in co-operatives being "completely eradicated" in some republics where the authorities were hostile to the whole concept.

He said that he "categorically opposed" the idea of imposing taxes on gross rather than net income, which was based on a misguided desire to equalise competition between state enterprises and co-operatives simply on the basis of taxation.

He said the ventures had to pay on average three times more for their raw materials than state enterprises, because they had to buy them at free market prices. "If you level out the co-operatives and state sectors, then you have to level them out in this respect too," he told Pravda, the Communist Party newspaper.

Although he approved in principle of giving the republics the right to determine tax rates, some republics "do not welcome co-operatives with open arms," he said.

"To grant such regional authorities such a level of influence could lead to their complete eradication in some places."

Co-operatives are currently enjoying a tax honeymoon, with maximum rates no higher than 10 per cent.

The threat of high taxation is the third blow to the movement in the past two months. On December 29, the Soviet Council of Ministers passed controversial restrictions on a whole range of enterprises, banning many medical, publishing, educational and video ventures.

Price controls approved by the Politburo could also be used to restrict drastically their freedom to operate, and put them at the mercy of existing government departments and enterprises.

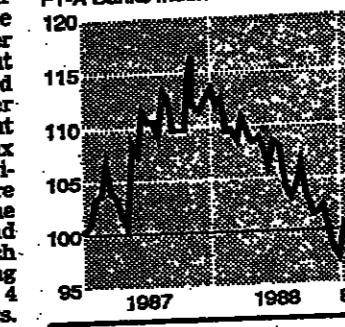
However, the draft does propose slightly more generous tax privileges and exemptions for ventures in remote areas, for those supplying goods in short supply, and for newly-established ventures.

THE TEN COLUMN

Slings and arrows at NatWest

NatWest

Share price relative to the FT-A Banks Index



1989, and 4% to 5 per cent inflation.

The foreign exchange and US treasury bond markets were not above registering a shaky reaction to the first set of numbers.

When the projection came across the news wires in headline form, it looked like a gesture in the direction of Mr Bush.

Bush, on the question of growth and the deficit, the dollar and the US long bond

quickly showed what they thought of that. But the market soon recognised the fudge factor — half a point tacked on

to the cost of overhead should go to the supply of domestic gas,

Ofgas arguing for a greater, and British Gas for a lesser, portion.

If the competitive contract market is made to bear a smaller share of the costs, the returns, shortly to be published for all to see, may be

embarrassingly flat. That would rather destroy British Gas' recent protestations to the MMC, and could mean pressure for even more competitive prices for its industrial customers.

In the domestic sector, by contrast, the lower returns will not necessarily mean higher gas prices. Ofgas has already

made it clear that British Gas earns too much money from its

domestic customers, and when

the pricing formula is reviewed

in three years time, the regulator will be aiming for an implicit return not much

higher than long term interest rates.

The suggested cost allocation might bring about that result without radical changes to the formula.

By now, British Gas' poor

shareholders must be immune to damaging outbursts from

Ofgas, and the near 25 per cent

underperformance in the

shares since the beginning of

last year shows how they have

gradually abandoned hope of

the company being anything else.

The redoubtable efforts of

Ofgas suggest it will never be

allowed to be anything else.

arrived. But then, the MB plan effectively means giving operating control of the business to Carnaud over the same period. Carnaud's net profits have shot up by 250 per cent, wholly overshadowing anything the American camp could claim on its own behalf.

And MB shareholders, of course, would retain a stake in the merged business. But this should be in the price already: the rise in the value of the Carnaud deal — from £780m originally to £840m — reflects the French market's assessment of its prospects. It might seem odd that MB shareholders are to be denied the option of cash equivalent; but the Ball/Elders initiative is too tricky and too late.

British Gas

It is not just routine obstinacy that makes British Gas fight its regulator over the allocation of costs between its three main businesses. If Ofgas set its way — and it is not in the habit of losing fights with its wayward charge — British Gas could find there is worse news to come on industrial gas profits. The dispute centres on how much overhead should go to the supply of domestic gas, Ofgas arguing for a greater, and British Gas for a lesser, portion. If the competitive contract market is made to bear a smaller share of the costs, the returns, shortly to be published for all to see, may be embarrassingly flat. That would rather destroy British Gas' recent protestations to the MMC, and could mean pressure for even more competitive prices for its industrial customers.

In the domestic sector, by contrast, the lower returns will not necessarily mean higher gas prices. Ofgas has already made it clear that British Gas earns too much money from its domestic customers, and when the pricing formula is reviewed in three years time, the regulator will be aiming for an implicit return not much higher than long term interest rates. The suggested cost allocation might bring about that result without radical changes to the formula.

By now, British Gas' poor shareholders must be immune to damaging outbursts from Ofgas, and the near 25 per cent underperformance in the shares since the beginning of last year shows how they have gradually abandoned hope of the company being anything else. The suggested cost allocation might bring about that result without radical changes to the formula.

Not that the squabble has

been uncashed. The board

claims that the exit multiple

represented by Ball Corp's

offer — something close to 12

times — is wholly inadequate.

But as Ball Corp nastily points out, trading profits from the

business were lower last year than four years earlier, just before MB's present chairman

US shift may end farm trade impasse

By Nancy Dunne in Washington

THE US is now talking about a "ratcheting down" rather than total phase-out of farm subsidies, in a shift of positions which could break the impasse over agriculture trade in international trade talks.

The formula was presented in a US position paper in Washington over the weekend to Mr Frans Andriessen, EC External Affairs Commissioner, by Mrs Carla Hills, US Trade Representative, and Mr Clayton Yeutter, US Agriculture Secretary.

EC officials are taking a hopeful view of the proposals. Mr Andriessen said that under the Bush Administration "there is a new spirit."

While the US has not changed its ultimate objective of eliminating all trade-distorting agricultural subsidies, the Bush Administration has abandoned its insistence on the language clarifying the objectives. This would free other talks on such issues as trade in ser-

vices, investment and GATT reform.

In further ministerial talks on March 10 and 11, negotiators are expected to focus on procedures for the negotiations. US officials have also abandoned their insistence that long-term measures on agriculture trade be agreed before discussions can begin on more immediate measures. But this may lead to difficulties for the EC if, as expected, the US seeks wider market access for its grains in the short term.

US farm groups, which have been insisting on the phase-out language, yesterday seemed resigned to the compromise but concerned about the "ratcheting down" process. A spokesman for the US Food Grains Council said that EC subsidies are much higher than those provided by the US, so cutting both by a specified percentage could leave US products uncompetitive.

Full-function pocket

Continued from Page 1

vale, California, whose chairman is Mr Rob Wilmot, former chief executive of ICL, the UK mainframe computer maker.

It is due to launch a pocket-sized computer which it claims will pass the test of true IBM PC compatibility, the ability to run the operating software system MS/DOS.

The development of a battery-powered computer (according to the manufacturer, it operates for eight weeks in normal use on three small batteries) small enough to fit a pocket or corner of a briefcase while retaining the power of a desk-top machine has been a major challenge for the industry.

The larger lap-top machines, which can fit in a briefcase and have a nearly full range of capabilities, are heavy and bulky with a short battery life.

The Atac computer, the Folio, was designed using technology licensed from Distributed Information Processing a small British electronics company based at Guilford. DIP's managing director is

Lovell for construction

INSIDE

NatWest takes the bad with the good

It has been a traumatic year at National Westminster, the UK's largest clearing bank, which yesterday reported double-digit profits. Government inspectors are still examining the role of County NatWest, its investment banking arm, in the Blue Arrow affair, and County yesterday cast a dampener on the good results news with a loss of £50m. Page 30

Blind investment pays off

"We must be able to see beyond the tip of our noses because we are blind," says Miguel Duran, 33 years old and sightless from birth. The managing director of Once, Spain's Association for the Blind, has taken the organisation on a spending spree in a bid to make it a power in corporate politics. As a result, Once could become a key player in the increasingly embattled Banco Central and Banesto merger. Page 25

Hard times Down Under



Foreign banks face a hard time in Australia. When the Government granted full operating licences to 18 banks in 1985, few thought that the battle for market share would take such a heavy toll. Deregulation, fierce competition, and a strong Australian dollar mean that many of the new foreign banks have been a disappointment. Page 28

Antwerp struggles to shine

Antwerp's diamond traders polished up their profits last year as turnover surged by 28 per cent to £60bn (\$10.5bn). But the city's cutting and polishing sector is struggling to cope with competition from low-cost Far East rivals and their subsidised Israeli counterparts. After heavy job losses the industry is seeking government support. Page 34

Uneasy spirit of banking merger
Italy's Cassa di Risparmio di Roma, the country's second-largest savings bank, has taken a controlling stake in the state-owned Banco di Santo Spirito. The merged institution will be among the world's top 100 banks. The merger was not all sweetness and light; however, with considerable political opposition. Page 22

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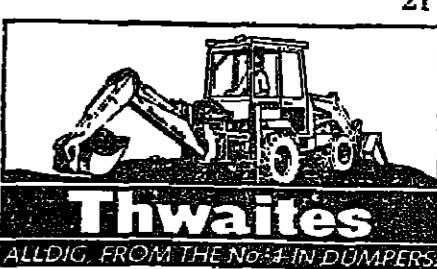
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Chief price changes yesterday

FRANKFURT (DM)		Midland SA		213.8 + 14	
Alfa	-	3.8	Stone	705	+ 18
Alusuisse	-	3.8	Stromberg	947	+ 51
Beck	173.5	-	Stubs	100	- 10
BMW	24.5	-	Spies	1165	- 17.5
BMW VOLK (D)	45	-	Strempel	821	- 17.5
Avia Auto	242.5	-	Value	100	- 10
Daimler-Benz	57	-	Waggoner	1300	+ 100
Texaco Eastern	52	-	Walters	1040	+ 104
Texaco	57	-	Waterf	1220	+ 100
Panhandle East	22.5	-	Watt	1540	- 140
PANES (PTW)	53.5	-	Watts	1560	- 130
Wipac	175	-	Watanabe	1210	- 90
LONDON (Pounds)		Sister		207 + 8	
Bristol Bus Pol	368	-	Wilt & Dudley	481	+ 11
Cap & Candler	350	-	Palms	777	- 10
Chamberlain Pl	210	-	Gen Accident	938	- 27
Coats	205	-	Gamer	155	- 10
Coorsland	308	-	Shaw	1260	- 11
GUS A	1128	-	Shaw	1260	- 11
Hillsdown	288	-	Motor Optics	184	- 8
Local London	541	-	Shaw	1260	- 11
Lowes Hard Spak	288	-	Prov Financial	349	- 15
Met Trade Sup	380	-	Red Int	422	- 10
Midland Bank	475	-	Reed Int	422	- 10
Peters (M)	124	-	Shops	71	- 7
Priest Marston	439	-	Stanley Lats.	254	- 7

FINANCIAL TIMES COMPANIES & MARKETS

Wednesday February 22 1989



Nestlé criticises London stock exchange

By William Dulfore in Zurich

NESTLÉ, the Swiss foods group which bought Rowntree of the UK in a controversial £2.5bn (\$4.4bn) takeover last year, sharply criticised the London stock exchange yesterday for the "voluminous" disclosure requirements it imposes on a company seeking a listing.

The information demanded "stops just short of requiring blood tests of our board members", said Mr Daniel Regolatti, the senior vice president responsible for finance.

After shaking the conservative Swiss stock market last November by saying that it was opening its registered shares to foreigners, Nestlé has been seeking to enlarge its investor base.

It has met difficulties in securing

listings for its shares on major exchanges such as London, Tokyo and New York. First contacts had shown that "we may require not only more effort but also more time than we initially expected", Mr Regolatti said.

The problem was not the quality of the consolidated figures presented in the company's annual report. There was a "minor stumbling block here and there" which could be overcome.

But Mr Regolatti saw no reason to provide "the curricula vitae of all our board members and the salary of Mr (Helmut) Maucher (Nestlé's managing director) plus much more which will not help investors to take decisions". If the London stock exchange became too tough, Nes-

té might not pursue its request for a listing.

Fortunately, the major stock exchanges were not entirely in the driver's seat, Mr Regolatti said. The start to trading in Nestlé shares on SEAG, London's all-electronic international market, in September had shown the exchanges that the market would take matters into its own hands if their demands were to severe.

A "Euromarket" in equities could easily be established and could develop into a world market with shares traded electronically on screens 24-hours-a-day, Mr Regolatti said. But he acknowledged that such a development would not be without its disadvantages.

His remarks were made at a conference organised by the magazine Euromoney at which he explained the constraints of the Swiss stock market that had led Nestlé to remove its ban against foreign ownership of its registered stock.

Swiss regulations are now complicating the company's difficulties in acquiring foreign listings.

Nestlé wants to reduce the nominal value of its shares to make them more attractive on exchanges abroad.

The best it can do under current Swiss regulations is a 1:10 stock split, reducing the nominal value from SFr100 to SFr10. That would drop the market price of a share to around SFr700 (\$450), still too high to trade comfortably in New York. "We have had

to go into ADRs (American depositary receipts)," Mr Regolatti said.

There has been speculation that after opening its registered stock Nestlé would "retire" its non-voting participation certificates, perhaps by converting them into bearer shares at a favourable price.

Nestlé has simply outgrown the Swiss capital market. Mr Regolatti said when explaining his company's decision on the registration of their shares.

After spending SFr7bn to acquire Rowntree and Butons of Italy last year, Nestlé realised that the Swiss market would be able to absorb no more than SFr350m-400m in new Nestlé equity within two years.

The Calice des Dépôts et Consignations, the state financial institution which is Mr Pebernec's principal backer in SIGP, and which also owns 4 per cent of SocGen directly, would remain the bank's largest shareholder with nearly 6 per cent.

Mr Pebernec acknowledged in an interview yesterday with Les Echos, the French business newspaper, that he was ready to reduce his stake in SocGen, provided it was at an acceptable price.

Mr Marc Vienet, SocGen's chairman, had earlier stated as a condition of settlement that he should not have to buy in his company's shares at too high a price, and that no shareholder should end up with more than 4.5 per cent of the bank's capital.

Negotiations conducted by Mr Jean-Claude Trichet, director of the French Treasury, have, however, succeeded in solving most of the differences between the two sides.

The battle over SocGen opened last October when Mr Pebernec declared a stake of 9.16 per cent. It has embroiled France's financial and political worlds in a bitter dispute.

The presence of the Caisse des Dépôts among Mr Pebernec's backers, and the overt support of Mr Pierre Beregovoy, the Finance Minister, for his operation, led to criticism from the opposition that the Government was attempting a backdoor re-nationalisation of SocGen.

The Bank of France was also accused of complaisantly giving Mr Pebernec permission to raise his stake above 10 per cent without checking on his backers.

Mr Beregovoy countered by attacking the "hard core" of supposedly friendly shareholders put in place by his predecessor, Mr Edouard Balladur, at the time of the privatisations. Both Mr Pebernec and the Caisse des Dépôts were selected by Mr Balladur for SocGen's hard core.

Mr Vienet, meanwhile, suffered veiled criticisms of his management abilities, although his opponents now recognise his vigour in defending SocGen.

Detroit in a struggle with the sceptics

Anatole Kaletsky on the outlook for the big US car manufacturers

Even assuming a further monetary tightening, may have relatively little impact on US car demand. The latest Blue Chip survey of leading economic forecasters suggested, for instance, that in spite of an expected slowdown in US GNP growth from 3.8 per cent in 1988 to 2.7 per cent in 1989 and 1.7 per cent in 1990, car sales would decline only marginally.

These forecasts suggest very little reduction in total automobile demand, considering that sales of light trucks – particularly the popular new models of passenger vans and utility vehicles. Detroit's marketing triumph of the decade would probably continue to grow by about \$000 annually.

What investors fear, however, is that even a relatively mild reduction in demand could have a devastating effect on the car makers' profits. Cars are, after all, a highly capital-intensive industry, with very high fixed costs which vastly magnify small changes.

To this concern, Detroit believes it has a clear answer. US car companies learned many managerial lessons as a result of their near-devastation in the early 1980s. Perhaps the single most important one was maximising flexibility by slashing overheads and fixed costs.

Detroit argues that lower overheads and greater operating flexi-

bility would allow it to protect profits even in the event of a major decline in car sales. Mr Donald Petersen, Ford's chairman, points out, for example, that about 20 per cent of its US current sales are produced on overtime shifts. Thus it could withstand a fall of that magnitude without incurring any lay-off or plant closure costs.

GM, of course, is still well behind Ford and Chrysler in its cost-reduction campaign.

T he contrast between its very strong results in Europe and its continuing marginal profitability in the US underlines this. GM's European operations were pinpointed much earlier and treated more aggressively in the company's cost-reduction drive. As a result, it now enjoys far more operating flexibility than in the US. To quote one example, GM makes in-house only 50 per cent of the components it uses in Europe, but more than 70 per cent of what it puts into its US cars. This means that GM will have far less opportunity to squeeze its component makers in the event of a downturn than Ford, Chrysler or,

above all, its Japanese rivals. Unfortunately, as Mr Chuck Brady of Oppenheimer & Company, points out, "investors still believe the US auto companies are fat and lazy. They have zero experience of these companies being fit and lean before a recession hits. They won't really believe the claims until recession hits."

This leaves the third, and most important reason, for concern. Even in the absence of a severe recession, can US car makers remain competitive against the Japanese? At first sight this may seem an odd question, considering that Ford and Chrysler both increased their shares of the US market in 1988, while GM managed to arrest its steady decline. The US companies' market share gains were all at the expense of imports, so should Detroit and Wall Street still be worried about the Japanese?

There are many reasons why they should. The most obvious are the "transplant" car plants which all of the major Japanese car makers have now built in the US. Transplant production is now running at around 750,000 units a year and is set to rise to

more than 2m within three years – an increase almost equivalent to 10 per cent of the

INTERNATIONAL COMPANIES AND FINANCE

Paris prosecutor's office to investigate Beghin-Say

By George Graham in Paris

FRANCE'S public prosecutor's office has opened an investigation into a FF1.860m (\$137m) loss recorded in 1987 by the sugar group Beghin-Say, part of the Ferruzzi empire of Italian foods and finance magnate Mr Raul Gardini.

The Paris prosecutor's office yesterday asked the financial squad of the judicial police to look at the transaction, which is already being studied by the Commission des Opérations de Bourse (COB), France's stock market regulator.

The inquiry covers the purchase by Beghin-Say, in which Mr Gardini controls 55 per cent of the voting rights, of a 7 per cent stake in Montedison, the Italian chemicals company. At the time, Mr Gardini was seek-

ing to gain control of Montedison.

The stake was acquired, according to Beghin-Say's accounts, for FF1.91bn, and then swapped after the stock market crash of 1987 for the 12 per cent stake held in St Louis, a rival French sugar producer, by European Sugar, a wholly-owned subsidiary of Mr Gardini's group, and a cash supplement, giving a total value of FF1.05bn.

The COB, which was last night unaware of the prosecutor's initiative, is on the point of completing its own inquiry into the transaction.

Beghin-Say was also last surprised by the prosecutor's investigation, but said that it remained "serene." The Ausmont bid fails, Page 24

Suez adjusts ties with Italian financier

By Paul Betts in Paris and Alan Friedman in Milan

COMPAGNIE Financière de Suez, the French privatised financial group, is about to restructure its ties with Mr De Benedetti, the Italian financier.

Suez, which defeated Mr De Benedetti in the battle for control of Société Générale de Belgique, plans to increase its stake in Cofide, Mr De Benedetti's principal Italian holding company. At the same time, however, Suez is planning to withdraw from Cerasi, Mr De Benedetti's French operating subsidiary.

The COB has a mediocre record in securing convictions on the charges it has asked prosecutors to file. Its own investigative powers are to be substantially increased by new legislation due to be presented to parliament this spring.

Ausmont bid fails, Page 24

Bowater said that Chamberlain's adhesives business would link with its coating and laminated division, largely based on Rexham of the US, acquired in late 1987.

Bowater said that it had followed Chamberlain Phipps closely for some time but assumed that its position, but it is believed that directors are still strongly in favour of the Evode merger.

Mr Andrew Simon, Evode's chairman, said he was disappointed that a rival offer had been launched but he stood firmly by the industrial logic of a merger with Chamberlain.

Background, Page 31

Bowater bids for Chamberlain

By Philip Coggan

BOWATER INDUSTRIES, the UK packaging and industrial products company, yesterday made a surprise £51m (\$143.7m) bid for Chamberlain Phipps, the UK shoe components and adhesives group, topping a rival recommended offer made last week by Evode, the plastic and chemicals business.

A morning flurry of share buying by its broker, Warburg Securities, gave Bowater a stake of around 7 per cent; its rival, Evode, has 4 per cent.

The 230p-per-share cash offer (with a four-month alternative) from Bowater compares with

Local London receives £110.9m offer

By David Waller in London

PRIEST MARIANS, a UK property company with interests in London's West End, yesterday made a £110.9m (\$196.8m) cash bid for Local London Group, the business centre company which is itself in the throes of a £77.7m bid for Marina Development Group.

Within hours of launching the bid yesterday morning, Marians' position looked almost impregnable, after a dawn raid that left around 50 per cent of the target compa-

ny's shares either in its hands or committed to the bid.

James Capel, the stockbroker acting on behalf of the predator, went into the market and bought 3.8m shares, or just under 20 per cent of the target company's equity. The bid was made with the backing of Brent Walker, the property, drinks and leisure group, which pledged its 29.9 per cent stake in Local London to Marians.

The bid was timed to frustrate Local London's own take-

over ambitions, which seemed close to fruition last Friday when it took its stake in Marina to 29.9 per cent. That, together with shares already pledged to the bid, gave it 46.9 per cent of its target.

Marians' bid is conditional on the bid for Marina not going through and is pitched at 550p a share in cash, an 11 per cent premium to Monday's price. Local London's shares jumped from 494p to 541p, while Marians' gained 10p to close at 439p.

Details, Page 31

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Details, Page 31

Italian banks join up for first division promotion

David Lane reports on a pioneering rationalisation

Italy's banking system is taking an important step towards rationalisation with the acquisition by the Cassa di Risparmio di Roma, the country's second largest savings bank, of a controlling 56 per cent stake in the state-owned Banco di Santo Spirito.

Considerable effort was needed to convince the various interest groups of the need for a merger. A senior executive at the savings bank said that separately the two banks would lose ground after the 1992 EC financial market reforms, while together the prospects were good. This message reached the political decision-makers.

The deal under which Santo Spirito passes from Istituto per la Ricostruzione Industriale (IRI), the state holding corporation, to Rome's savings bank is the biggest post-war change of ownership.

The two medium-sized banks are ranked separately towards the bottom end of the world's top 200 banks. The resulting merged institution will win a place in the top 100.

Rankings published last year showed Risparmio di Roma in 178th place with assets of \$20bn and deposits of \$12.7bn at year-end 1987. Santo Spirito was six places lower with assets of \$18.8bn and deposits of \$17.2bn.

Now large Italian banks face a new competitor whose combined assets of more than \$40bn, Italian network of more than 400 branches and staff of 10,400 place it firmly in the country's top 10.

Opposition to the deal came from political quarters rather than banking circles. Banks are part of Italy's political

experts. Banco di Santo Spirito's shares are being traded on Italy's third market at L1.800, valuing the bank at L1.060bn.

In contrast to Banco di Roma, the city's savings bank has no difficulties with its capital ratios, and its strong asset base allows space for investment and growth. It is financing the acquisition from reserves and cash flow.

Risparmio di Roma went against the trend in 1987 and returned results better than the previous year. Gross operating profits were L467bn, against L320m in 1986, and net profits rose from L738m to L850m. And last year's results should show a 10 per cent improvement.

Santo Spirito has performed less well: its 1987 post-tax profits of L476m were slightly down on the previous year.

The savings bank's senior executive noted that growth in deposits and lending at Santo Spirito are slower than at Risparmio.

Management at the savings bank wants returns on its investment and hopes that imposition of its more businesslike approach will quickly produce results.

Alberto di Sant'Elia, Cassa di Risparmio di Roma's senior executive, said that although a provisional price has been agreed, the final figure will depend on a valuation to be undertaken by interna-

Increased lending lifts Swedish bank profits

By Sara Webb
in Stockholm

SKANDINAViska Enskilda Banken and Svenska Handelsbanken, Sweden's two largest commercial banks, yesterday reported higher profits for 1987 helped by increased volumes in lending. Both banks raised their dividends and announced bonus issues to shareholders.

SEB Banken, which is the larger of the two banks, said its group operating profit climbed 16 per cent to SKr4.67bn (\$742.4m) from SKr4.04bn in 1986, while total operating income rose by 15 per cent to SKr10.12bn.

The Swedish banking operations showed a 21 per cent jump in operating profit to SKr1.75bn and a 17 per cent increase in total operating income to SKr1.75bn.

Operating costs for the group rose by 12 per cent to SKr5.04bn, boosted by expansion overseas and the setting up of branch offices in London, New York and Hong Kong. Lending losses for the group jumped 58 per cent to SKr375m.

The board proposed raising the dividend from SKr1.25 to SKr1.51 for its class A shares and said it would create a new class of share in readiness for SEB Banken's introduction on foreign stock exchanges.

SEB Banken plans to double its share capital to SKr2.57bn by means of a bonus issue using funds from its legal reserve as well as a substantial write-up on its real estate.

Handelsbanken's group operating profits rose by 24 per cent to SKr3.65bn from SKr2.98bn in 1987, a year when the bank was badly hit by losses in the options market.

Profit for the Swedish banking operations climbed 28 per cent to SKr3.5bn. Handelsbanken said interest income increased by 15 per cent to SKr4.4bn due to the strong increase in lending, while income from commissions and bond sales jumped 38 per cent to SKr1.87bn. Total costs rose by 15 per cent to SKr1.93bn.

The board proposed increasing the dividend from SKr1.6 to SKr1.45 per share and announced a bonus issue of one new share for every three held.

Itab gains new owner and chairman

By David Lascelles, Banking Editor

ITAB, the Italian-owned London consortium bank, is to have a new chairman.

Mr Patrick Brennan, a former director of Hamburg Bank and one of the people assigned by the Bank of England to sort out the stricken Johnson Matthey Bankers, becomes chairman.

He replaces Mr Mario Borto-

lussi who was deemed not to be "fit and proper" by the Bank of England last year because of his past association with Mr Roberto Calvi, the controversial financier who was found hanging under Blackfriars Bridge in 1982.

Two British non-executive directors are also joining the board.

Cassa di Risparmio di

Torino, the Turin-based savings bank which owned half of Itab, is buying out the other owner, the Credito Romagnolo, making it a fully-owned subsidiary.

Itab will also increase its share capital from £5m (\$8.5m) to £22m, and its loan capital from £2.5m to £10m. Itab's name is to be changed to London Baltic Bank Limited.

December 1988

BOND INTERNATIONAL GOLD INC.



FIRST SIX MONTHS RESULTS

December 31, 1988
(unaudited)

	\$ Million		PRODUCTION
Net Sales	99.3		
Depreciation, Depletion and Amortization	19.0	Gold	216,000 Ounces
Income from Operations	21.4	Silver	670,000 Ounces
Unrealized Foreign Exchange Gains	4.0	Copper	14,000 Tonnes
Net Income	15.2		
Net Income per Share:	\$0.28		
Total Assets	1,015.7		

SIX MONTH ACCOMPLISHMENTS

- Listings on the New York and Toronto Stock Exchanges
- Commissioning of two more mines, the Golden Patricia in Ontario, Canada and Richmond Hill in South Dakota, United States
- Annualized gold production in excess of 400,000 ounces per year
- Increased total attributable gold reserves to 6.3 million ounces
- The Bullfrog Mine in Nevada is fully permitted and construction proceeds on schedule for production by the second half of 1989

RECENT SIGNIFICANT EVENTS

Agreement finalized with Homestake Gold of Australia Ltd. rationalizing the Kalgoorlie, Western Australia "Golden Mile" holdings, allowing the development of one enormous operation, the Super Pit.

Additional Information: Contact Douglas Silver, Bond Gold Corporation, 4600 Ulster St., Suite 300, Denver, CO 80237, (303) 220-9727

BOND INTERNATIONAL GOLD INC.

This announcement appears as a matter of record only.

EIL

BRIERLEY INVESTMENTS OVERSEAS N.V.

U.S.\$ 50,000,000

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SKOBANK

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Banco Bilbao Vizcaya SA

BANKINVEST

Crédit du Nord

Die Erste Österreichische Spar-Casse - Bank

(First Austrian Bank)

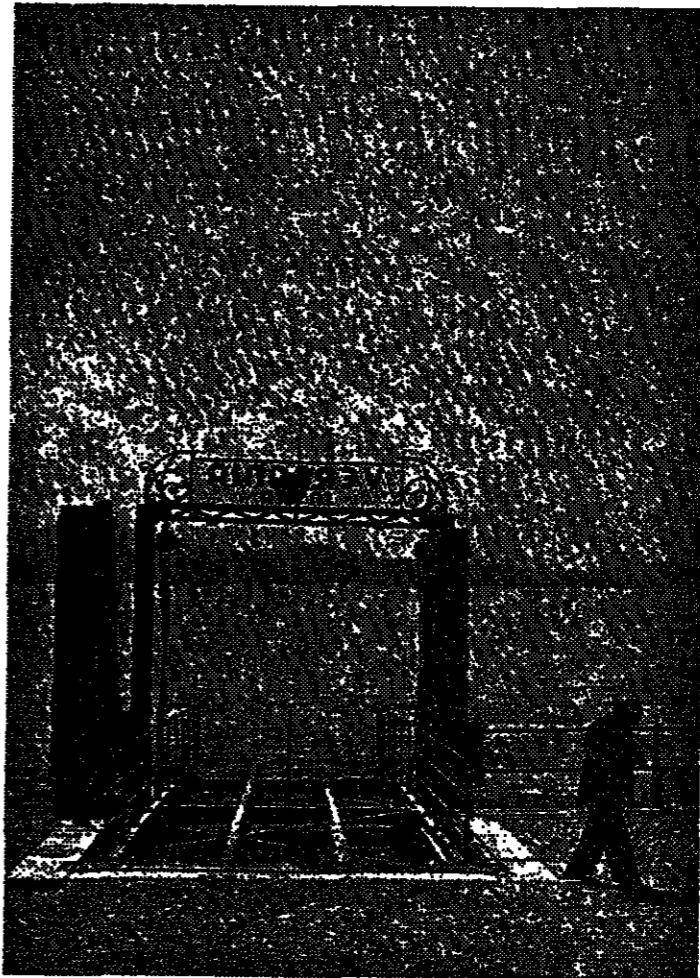
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When you're searching for opportunities in global finance, experience shows that any answer also poses questions: Does a cost advantage outweigh the price risk involved? Can risks be mitigated through hedging or other strategies? How can implicit yield and currency considerations affect total return? For investors and borrowers alike, J.P. Morgan's worldwide financial network is unequaled in its ability to anticipate the questions and supply the answers. By providing local-market intelligence viewed within a global context, we can help you make the right moves when the timing and circumstances are right for your objectives.

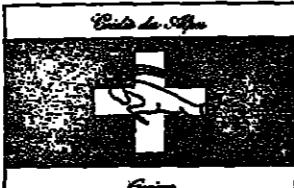


In global markets, the best opportunities seldom arrive on schedule. To move when the time is right, you need local-market intelligence viewed from a global perspective.

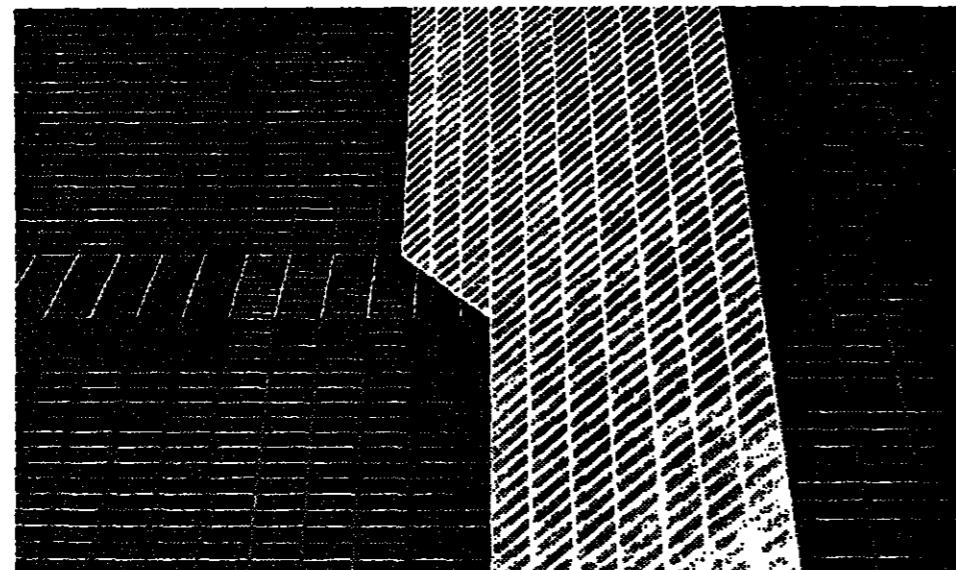
JPMorgan

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INTERNATIONAL COMPANIES AND FINANCE

*This announcement appears as a matter of record only.***Euro-Belge S.A.**
*(Incorporated in Luxembourg with limited liability)*has acquired through a subsidiary company
a majority holding in**UNIPAR - Unione Nazionale di Partecipazioni S.p.A.**
*(Incorporated in Italy with limited liability)*The undersigned assisted in the negotiations and acted as
financial advisor to Euro-Belge S.A. in this transactionCrédit des Alpes
Genève

DECEMBER 1988

Attel
Investment Banking GroupAttel & Cie
Geneva-LuganoAttel Finance
LuxembourgCrédit des Alpes
GenèveAttel Bank International
NassauR.J. Meiss First Finance
LondonFor further information about our financial services please contact:
Attel Finance S.A. (Mr. J.-C. Jolis), 33 Rue Notre-Dame, 2240 Luxembourg, Tel. (0352) 47 39 85,
Attel & Cie SA (Mr. D. Renaud), 30 Rue du Rhône, 1211 Geneva 3, Tel. (022) 31 42 44.

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that's what we are strengthening throughout
our worldwide business network:
providing you with the most comprehensive,
timely and effective financial services.

**Overseas earnings prop
Deere in opening quarter**

By Roderick Oram in New York

DEERE, the world's largest maker of farm equipment, reported a sharp increase in earnings from operations with a strong foreign performance offsetting lower North American retail sales.

Net profits for its first quarter to January 31 were \$8.4m or 85 cents a share, against \$7.5m or 93 cents, but last year's figure included a \$2.7m gain from a tax accounting rule change and \$3.9m from tax loss carryforwards.

Worldwide manufacturing and marketing operations, excluding unconsolidated subsidiaries, turned in pre-tax income of \$21.3m, up sharply from \$9.1m due to improved overseas operations.

Total sales rose 9 per cent to \$1.14bn from \$1.05bn on a 7 per cent rise in manufacturing unit volume. North American retail sales of agricultural equipment were lower than a year earlier when heavy manufacturers' discounting boosted volume.

Sales of lawn and grounds care equipment were also lower while industrial equipment was flat. Overseas sales of farm and industrial equipment were flat.

Analysts express concern, however, that the unusually dry weather this winter could harm winter wheat crops and affect other crops later in the year. If farmers turn more cautious as a result, Deere might have to cut production and inventories.

forecast first-quarter shipments. The company hopes to make them up during the current quarter.

Deere is lifting worldwide production volume 14 per cent this year. In North America, farmers' incomes are strong while rising land values have reduced debt. More land is coming into production to help rebuild grain stocks depleted by last summer's drought.

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Total sales rose 9 per cent to \$1.14bn from \$1.05bn on a 7 per cent rise in manufacturing unit volume. North American retail sales of agricultural equipment were lower than a year earlier when heavy manufacturers' discounting boosted volume.

Sales of lawn and grounds care equipment were also lower while industrial equipment was flat. Overseas sales of farm and industrial equipment were flat.

Analysts express concern, however, that the unusually dry weather this winter could harm winter wheat crops and affect other crops later in the year. If farmers turn more cautious as a result, Deere might have to cut production and inventories.

Revenues totalled \$2.7bn, up from \$2.2bn in the same period last year. US sales rose 12 per cent to \$1.2bn, while international sales were up 31 per cent to \$1.4bn.

New orders booked during the quarter totalled \$3bn, up 23 per cent from \$2.4bn in the first quarter last year. US orders were up 17 per cent while international orders grew by 29 per cent.

General Mills may sell unit

GENERAL MILLS, the US foods group, is considering selling its Vroman's Frozen Novelty business.

Mr H. Brewster Atwater, chairman, said Vroman's would have about \$100m in sales in fiscal 1989. But he added that the unit, which makes Betty Crocker Brownie Sundae, Gold Rush ice cream bar and Yoplait soft frozen yogurt, was also losing money.

General Mills also makes Yoplait yogurt, which is not included in the unit being considered for sale.

Montedison's Ausimont bid fails

By Alan Friedman in Milan

ITALY'S Montedison group has failed to secure 100 per cent control of Ausimont, its Wall Street-listed specialty chemicals subsidiary.

As of yesterday Montedison had secured 88.2 per cent of Ausimont.

Montedison had come under fire from independent directors of Ausimont who rejected as inadequate the group's \$35 a share offer for minority Ausimont stock.

Montedison launched its \$35 offer in January to buy the 2.74 per cent of Ausimont it did not control. Montedison needed to obtain at least 95 per cent control of the Dutch-registered Ausimont.

Under Dutch law this is the level at which minority shareholders can be forced to sell their stock.

Last Thursday Oppenheimer, the New York investment

house, said it held 5.2 per cent of Ausimont, sufficient to block Montedison under Dutch law.

Oppenheimer said it viewed the \$35 offer as unacceptable and would take action to block the transfer of Ausimont's Dutch subsidiary to Eulmont, a new Italian joint-venture chemicals concern. Oppenheimer confirmed yesterday that it considers the Dutch transfer as being against the best interests of Ausimont shareholders.

Montedison yesterday said it had no comment to make on the Ausimont affair. In New York, Mr Jim Harmon, a senior executive at Wertheim Schroder and one of four outside Ausimont directors who criticized the \$35 offer, said the outcome was "a terrible tragedy for all concerned."

Mr Harmon claimed "an American or British company

would have never let the situation get so far — the present state of affairs does not benefit shareholders, does not benefit Montedison because they have not got 95 per cent and has got nothing".

It is thought likely the remaining minority shareholders of Ausimont will seek initially to obtain a higher price than the \$35 in Montedison's offer, but the Italian company had described the offer as final.

There is also uncertainty about whether Mr Raul Gaudini, chairman of the Ferruzzi-Montedison group, will try to obtain Ausimont shares taken off the New York Stock Exchange.

The most widely held view is that Montedison could face lawsuits in New York relating to the Ausimont affair, which would imply several months of delays.

Chile's privatisation scheme under fire

By Barbara Durr in Santiago

THE CHILEAN military Government's extensive privatisation scheme is coming under increasingly heavy fire from the opposition.

As the opposition Coalition of Parties for Democracy gears up for this December's elections, it has promised privatisation will be one of its top campaign issues and has vowed to annul all privatisations made after last October's plebiscite.

The Government, bent on paring down the state sector, recently announced plans to sell part or all of another 12 state companies. Sixteen public sector companies have already gone completely private.

The opposition argues that the Government's post-plebiscite privatisations are politically illegitimate, given voters' rejection of Gen Augusto Pinochet. Opposition leaders charge that the underlying strategy of the regime is to reduce an incoming democratic government's room for manoeuvre and its revenue sources.

Mr Ricardo French-Davis, a prominent opposition economist, says the Government's haste to divest this year will fetch lower prices and place monopolies for public services in private hands without sufficient safeguards on fair pricing and service. He admitted the renationalisations could be traumatic, and that "we don't need traumas" as Chilean democracy begins anew.

His advice to foreign investors, interested in companies to be privatised, such as the national airline Lan Chile, is to heed the opposition's public warnings.

The Government contends it is only proceeding with plans laid long before October, and that Gen Pinochet's plebiscite defied hardly made a responsible decision of the free market policy.

Of the 11 companies currently in the list for privatisation, by the state mining company, Corfo, nine have already been at least partly sold to private shareholders. The newly-announced intention to privatise partially the Ministry of Mines' National Petroleum Company (Enami) has, however, intensified the dispute.

The Minister of Mining, Mr Pablo Baracosa, said he would sell up to 30 per cent of Enami's shares to workers, pension funds and the public. Unions and even retired Gen Gustavo Leigh, a former junta member, have criticised the move.

Mr Baracosa is also considering privatisation of the National Mining Company (Enami), which does little mining but processes the ore and concentrates of Chile's small and medium-sized miners.

For now, the Minister has only decided to restructure Enami, separating its industrial and commercial divisions. But these could be sold, he hinted. This step would also be opposed by the National Society of Mining, which groups

small and medium sized private miners who use Enami. Suspicions that the Government will go on a "end of the party" privatisation spree are so intense that officials have had to deny repeatedly that they intend to privatise Codaco, responsible for some 80 per cent of the country's copper production. Its sale is prohibited by the constitution.

It is far from certain that a new democratic government would move with such speed against all privatisations dating after last October. Mr David Gallagher, managing director of Asset Chile, the investment bank which has handled several debt-equity swaps, said: "I don't see a new government going against the trend towards privatising all over Latin America and the rest of the world."

More likely it will select companies that are highly disputed, such as Enami, or where monopolistic or other abuses can be proven, even if the privatisation came before the plebiscite.

A potential political obstacle to renationalisation could be the vast number of new worker shareholders. Privatisations have increased the number of shareholders by 200,000.

Yet, the Government's key justification for divesting — to unleash greater private investment that has been held back by the public sector — is failing.

Mr French-Davis says a fall in public investment over the past few years has not been compensated by private initiatives. The average rate of investment between 1974 and 1988 was only 15 per cent, compared with 20 per cent in the 1960s.

Much of recent investment has come through debt swaps, which have reduced debt but diverted resources away from creating new productive capacity.

The opposition intends to change debt swap rules to bring in more fresh capital.

According to critics of the Government, the glamorous statistics of Chile's past five years of steady growth at more than 5 per cent annually are a mirage. After the economic crisis of 1982-83, the recovery has largely been based on installed capacity, they say.

Government economists agree the investment rate is dangerously low but they insist that more privatisation will boost it. Mr Christian Larroulet, chief of staff at the Finance Ministry, says the money earned from privatisation is also partly channelled to public works that help foster investment. Diversification has put \$600m in the Chilean Treasury since 1986, and another \$320m may come from remaining sales.

It remains unclear if the opposition's objections will discourage investor interest in the sales planned for later this year. The tender for Lan Chile, due soon, is expected to give an indication.

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Floating Rate Notes 1997

In accordance with the provisions of the Notes, notice is hereby given that, for the three month period 20th February, 1989 to 22nd May, 1989 the Notes will bear interest at the rate of 13 1/4 per cent, per annum. Coupon No. 15 will therefore be payable on 22nd May, 1989 at £1,628.34 per coupon from Notes of £50,000 nominal and £162.83 per coupon from Notes of £5,000 nominal.

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With Warrants Exercisable into free shares of Kansallis-Osake-Pankki

In accordance with the Terms and Conditions of the above-mentioned Warrants (the "Warrants"), notice is hereby given that at the Shareholders' Meeting on February 21, 1989 Kansallis-Osake-Pankki (the "Bank") decided to increase the Bank's share capital from FM 2,955,000,000 to a maximum of FM 3,718,750,000 through a rights issue in the maximum amount of 763,750,000 (the "Rights Issue"). According to the Terms and Conditions of the Warrants, the right to subscribe to the Warrants will be exercisable in accordance with paragraph 6(c) of the Terms and Conditions of the Warrants. Notice is hereby given that according to paragraph 2 of the Terms and Conditions the Subscription Rights of the Warrantholders shall be suspended from February 21 to and including March 22, 1989.

The Bank will give further notice of the Exercise Price as adjusted and the effective date from which the adjusted Exercise Price shall apply.

By: KANSALLIS-OSAKE-PANKKI
Helsinki, Finland

February 22, 1989

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Floating Rate Deposit Notes due 1996

In accordance with the provisions of the Notes, notice is hereby given, that for the Interest Period from November 30, 1988 to February 22, 1989 the rate for the final Interest Sub-period from 9.5% per annum, and therefore the amount of interest payable at against Coupon No. 18 or per U.S. \$10,000 nominal in registered form, on the relevant interest payment date February 28, 1989 will be U.S. \$225.20.

By: The Chase Manhattan Bank, N.A.
London, Agent Bank
February 22, 1989

CHASE

INTERNATIONAL COMPANIES AND FINANCE

ONCE, in the eye of the hurricane

Tom Burns on the Spanish Association for the Blind's ambitions

We are in the eye of a hurricane and it is all terrible because our bosses are blind," says a harassed press assistant as he fields phone calls from financial reporters questioning him about ONCE's "investment plans."

The crack sounds in the worst possible taste because ONCE — Organización Nacional de Ciegos Españoles — is Spain's Association for the Blind and the press assistant is one of the few people at its Madrid headquarters who can see. But black humour permeates from the top down.

"We must be able to see beyond the tip of our noses because we are blind," says Mr Miguel Duran, ONCE's managing director, 33 years old and sightless from birth.

It is Mr Duran who has pitched the organisation, with its more than 30,000 blind and handicapped members, into the eye of the hurricane. Last month he spent Pta2.8bn (\$340m) of ONCE money acquiring stock in companies controlled by construction tycoons Mr Alberto Alcocer and Mr Alberto Cortina's Grupo Construcciones y Contratas (Grucyes). Now he is considering spending a further Pta20bn to buy into Banco Central and Banesto, the two Spanish banking giants that agreed to join forces last year.

The spending spree has turned ONCE, a venerable 50-year-old institution of blind and disabled lottery ticket-sellers, into a key player in a merger that looks increasingly embezzled. So far Mr Duran has written to the chairman of both Banesto and Banco Central declaring ONCE's interest in buying stock from their respective *autocarteras*, the portfolio of a Spanish bank holds of its own shares, and he expects to be meeting them soon. The Pta20bn war chest he is looking about would buy ONCE some 2.5 per cent of each bank's stock.

The rub is that, under his agreement with Grucyes, Mr Duran will syndicate whatever equity ONCE acquires in the banks with Carter Central, the share portfolio that Grucyes, with the backing of the Kuwait Investment Office (KIO), controls in both

Banesto and Banco Central. The additional support of Carter Central will convert Carter Central into a formidable presence in the two banks, for the portfolio company already holds close on 10 per cent of their joint capital. Last week ONCE bought nearly 0.3 per cent of Banco Bilbao Vizcaya's *autocartera*. BBV has become Spain's biggest bank following the merger of Banco de Bilbao and Banco de Vizcaya early last year.

Suddenly everyone, from the governor of the Bank of Spain downwards, wants to ask Mr Duran about ONCE's strategy. Carter Central is viewed as a hostile intruder by some members of both the Banesto and the Banco Central boards and ONCE's sense of timing and its choice of partners as it launches into the capital markets has set everybody talking.

Casting ONCE as a peacemaker, and joking, too, about the eye of the hurricane, Mr Duran says the association may be "with" Carter Central but it is not "against" anybody. "We just want the merger to go through because Spain needs a big banking and industrial group and we want to be part of it."

Power talk and boardroom politics come naturally to Mr Duran, for he and his executive team, all of them blind, are in the midst of the second revolution that ONCE has undergone in little more than five years. The first was to increase income dramatically and the present one is to diversify assets that would make any financial planner's mouth water.

Buying ONCE lottery coupons, mixing charity with a flint, has always been a habit among Spaniards, but the parameters of the business have changed utterly. In 1982, the association earned Pta2.9bn from coupon sales; in 1984, Pta19.8bn; and last year the income was up to Pta230bn, Pta45bn more than 1987.

The new team (Mr Duran became managing director in 1986) took over in 1988, when ONCE's government-appointed trustee changed the association's statutes to allow its members to elect its executive board directly. In quick steps, the newcomers, all very young, increased the price of the con-

tions and the prize money, made the draws nationwide instead of provincial and embarked on an aggressive advertising campaign of radio jingles and slick TV ads that last year had a budget of Pta2.8bn.

Mr Duran justifiably claims that ONCE — an association, he notes that is "of" and not "for" the blind — is uniquely efficient and profitable and would "please people like Mrs Thatcher who want to privatise social services."

ONCE's cash cow is its network of 22,000 lottery sellers, 14,000 of them blind and the rest handicapped, who hawk the Pta100 coupons five days a week on street corners all over Spain. Top prizes every day are Pta100m and there is a bumper Pta100m prize on Fridays. Business is brisk and the lottery sellers, who are guaranteed Pta50 a month — twice the legal minimum wage — and take home an average of Pta135,000, have usually sold out by lunchtime.

Gambling, a lucrative business in Spain, is "just another economic activity," according to Mr Duran, and he claims that ONCE has an 8 per cent quota of the market. However, competition from other national lotteries, in particular from two run by the finance ministry, and from the one-armed bandit in every Spanish bar and cafe, has prompted Mr Duran to widen ONCE's horizons.

Under ONCE's constitution, 40 per cent of its financial assets must be in fixed-interest, government-linked loans and the income earned over the past five years has allowed Mr Duran to lay aside sufficient investment in state bonds and other instruments to cover simply its 15,000 pensioners and its 2,500 odd students at the blind schools it supports. He says he now wants ONCE's financial muscle to be "productive and creative."

A lawyer and a specialist in brand production, Mr Duran began testing the markets last year and soon found himself wined and dined by Spain's financial top brass. "They thought we would be a sneak at first," he recalls. "They soon discovered that we may be blind but we are not suckers." Mr Duran eventually chose Grucyes because "they are active and control front-line companies." Last month's Pta2.9bn investment in the holding bought ONCE 2 per cent shareholdings in Banco Zaragozano, in the construction company Fossa and in the cement manufacturer Valderras, which are quoted on the Madrid Bolsa.

Within three weeks of buying the shares, the overall stock market value of ONCE's investment had risen by Pta450m. However, higher returns on capital are only part of Mr Duran's concern: "We have adopted the culture of long-term wealth, we are not speculators and we don't want short-term riches."

ONCE's managing director says he wants the association to be present at the "centres of power" and in this sense Grucyes and the Carter Central syndication are the ideal vehicles to lead the blind to the top table.

Already there is an ONCE nominee on the boards of Valderras and of Fossa and there are two on the board of Banco Zaragozano. However, the real prize is Banco Central and Banesto, for the financial and industrial interests of the two banks combined, says Mr Duran, represent 6 per cent of Spain's GDP.

Why do Mr Duran and ONCE want to play at tycoons? The managing director's answer is vehement: "We are sick of people ignoring the 2 per cent."

The "2 per cent" is the proportion of jobs that large companies should allocate to handicapped persons, according to Spain's labour legislation, and Mr Duran wants ONCE funding to ensure that the guidelines are observed. "Blind people should not be condemned to selling lottery tickets and nor should companies be hiring them only as telephone operators."

Mr Duran talks of sponsoring blind people through MBA programmes so that they can run the empire he foresees for ONCE. Do top ONCE executives have to be blind? "Preference yes," says Mr Duran. "We wouldn't want to scratch their eyes out." The press aide who had sat mute through the interview laughed nervously.

So far Mr Duran has written to the chairman of both Banesto and Banco Central declaring ONCE's interest in buying stock from their respective *autocarteras*, the portfolio of a Spanish bank holds of its own shares, and he expects to be meeting them soon. The Pta20bn war chest he is looking about would buy ONCE some 2.5 per cent of each bank's stock.

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AECI lifts sales 25% to R4.08bn

By Jim Jones in Johannesburg

AECI, South Africa's largest diversified chemicals group, lifted sales by a quarter in 1988, helped by stronger domestic demand and better prices in export markets. It expects further growth this year.

The year's turnover increased to R4.05bn (\$1.65bn) from R3.2bn, the trading income before tax and financing costs was R473m against R363m and the pre-tax profit rose to R39m from R20m.

Mr Mike Sander, managing director, says all divisions did better than in 1987, although sales of chlorine-based organic chemicals were affected by technical problems at the Coal-plex plant during the first six months.

That affected AECI's ability to export PVC plastics, but sales recovered in the second half as international prices of chemicals and plastics increased and the rand/dollar exchange rate favoured exports. Export sales rose by 38 per cent, although export volumes were little changed.

Earnings rose to 165 cents a share from 138 cents.

Wormald back to profit after rationalisation

By Chris Sharwell in Sydney

WORMALD International, the Australian-based fire protection group which suffered heavy losses last year following the 1987 share market crash, has returned to profit following a return to rationalisation.

Figures for the six months to December, released yesterday, showed an attributable after-tax profit of A\$4.95m (US\$4.68m) against a loss of A\$49.2m in the same period of 1987. The result was achieved despite a 13 per cent fall in revenues to A\$531.5m.

The "new" Wormald also reported that its net debt position was A\$115m, down from A\$309m in June and A\$45m in November 1987. It said the figure would be reduced further as a result of additional dividend payments and current profit performance.

The group is now 44 per cent owned by Chase Corporation of New Zealand and its subsidiary Rail Corporation. Another 21 per cent stake is held by AMP Society, Australia's largest institutional investor.

The ownership structure emerged last October from a protracted wrangle which began in the wake of the market crash a year earlier. Major losses were suffered as a result

of the pre-crash purchase of Sunshine Australia, which had a significant stake in Wormald.

The group's biggest rationalisation move was the sale of its security operations in Australia, the UK, the US and Singapore to Racial Electronics of Britain. It also plans to sell its stake in the consortium building submarines for the Australian Navy.

Mr Bob Mansfield, managing director and chief executive, said yesterday the group remained the largest international fire protection company in the world, with operations in 30 countries, and was now operating with reduced overheads and a streamlined management structure.

He said it was experiencing profitable trading in all regions, had healthy forward orders and was "on course" to achieve 20 per cent return on shareholders' funds over the next three years. Directors declared an interim dividend of two cents a share, unfranked.

Chase Corporation's 38 per cent-owned Hanmer Corporation, the camera products group it has put on the market, yesterday blamed the strong Australian dollar for restricting after-tax profits growth to 5 per cent in the first half.

AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED
Sterling Floating Rate Notes due 1997

In accordance with the provisions of the Notes, notice is hereby given that the rate of interest for the period from 20th February, 1988 to 22nd May, 1989 has been fixed at 13.125 per cent per annum.

On 22nd May, 1989 interest of 163.81 per cent, nominal amount of the Notes, and interest of sterling \$16.07 per sterling £100 Note, less the relevant floating rate, will be paid against Coupon No. 16.

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Interest Period 10/25/88-10/25/89
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Interest Period 22/5/89-22/5/90
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Interest Period 22/2/89-22/2/91
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Open letter to MB Group Shareholders.



Ball Corporation
345 South High Street, Muncie, Indiana.

Dear Shareholder,

We have written to Dr Brian Smith, Chairman of MB Group plc, on behalf of Newco offering to increase the price Newco will pay for Metalbox Packaging to £835 million in cash payable direct to the MB Group shareholders. This contrasts with the Carnaud offer of shares in Carnaud and cash, with a theoretical value which has fluctuated from £815 million to £840 million over the last two weeks.

The Newco proposal is conditional on Newco receiving information previously given to Carnaud and requested by Newco, and may be increased further if such information confirms certain assumptions made by Newco in valuing Metalbox Packaging.

Newco's shareholders include the Ball Corporation, Mr Richard Hofmann, Mr Dan Gresham, and Elders Investments Limited.

Setting the Record Straight

In its attempt to force through its ill-conceived and defensive scheme, the MB Group board and its financial advisers have resorted to misleading and inaccurate statements about the Newco proposal. Some of these blatantly misrepresent the facts. MB Group shareholders risk losing a superior proposal due to the attitude of the MB Group board.

MYTH: Metalbox Packaging is not for sale.

FACT: Under the Carnaud scheme, Metalbox Packaging is being sold to Carnaud, which will change its name to CMB Packaging. CMB will be controlled by the present Carnaud management and based in Brussels. Newco will be a UK based and managed company.

MYTH: Newco's offer undervalues Metalbox Packaging.

FACT: Newco's offer of £835 million in cash compares with the MB Group board's sale valuation of £780 million at the time the Carnaud scheme was announced. The Newco offer is for cash, not paper. Its value is certain and, including the value of the non-packaging businesses, represents a price of some £3.20 per existing MB Group share.

MYTH: MB Group claims that Newco is using spoiling tactics.

FACT: It is MB Group directors who are using spoiling tactics in an attempt to deprive shareholders of an opportunity to consider a superior offer. The Newco proposal is firm and serious and the details should be evaluated by the MB Group board on behalf of shareholders.

MYTH: Metalbox Packaging will be starved of financial resources for research and investment.

FACT: Newco plans to spend a minimum of £230 million on research and capital investment in the Metalbox Packaging UK businesses over the next five years. Ball Corporation and Newco's management are committed to the expansion of Metalbox Packaging and its re-establishment as a technological leader.

MYTH: There is no industrial logic to Newco's proposal.

FACT: Ball Corporation is a recognised world leader in beverage can technology, the highest growth area of metal packaging. It has supplied packaging to the Food Industry for over 100 years and has extensive experience of the packaging industry worldwide.

In contrast, there is no logic in a diversified new MB Group holding a minority investment in a French controlled packaging company.

MYTH: Newco's management does not compare with the proven growth achievements of the MB Group.

FACT: Messrs Hofmann and Gresham have over 38 years of packaging industry experience between them. Messrs Smith and Stuart jointly have had only 10 years experience between them at MB Group. During the period 1981-1987, whilst Mr Hofmann led Continental Can's metal container and packaging businesses, operating profits almost doubled. Over the period that Dr Smith has been Chairman of MB Group, profit before interest and tax of the packaging businesses actually declined.

Furthermore, Mr Hofmann was President of Continental Can when it succeeded in taking significant market share from Metalbox Packaging in the UK beverage can market.

MYTH: MB Group and its shareholders will have to pay significant capital gains tax.

FACT: Newco's scheme will result in no capital gains tax being payable by MB Group. The tax effects are no different to those of the Carnaud scheme.

MB Group shareholders will be offered the opportunity to take loan notes or additional shares in new MB Group, thus deferring any capital gains tax.

**YOU ARE BEING DEPRIVED OF THE OPPORTUNITY TO CONSIDER A BETTER DEAL.
VOTE AGAINST THE RESOLUTIONS TO COMPEL YOUR BOARD
TO NEGOTIATE THE HIGHEST OFFER ON YOUR BEHALF.**

Yours faithfully,

Chairman

MB Group plc



NOTICE TO HOLDERS OF WARRANTS
in registered form exercisable into
the Shares of MB Group plc

Baring Brothers & Co., Limited, on behalf of M.B. Limited, announces that the offer to holders of the above warrants made on 8th February, 1989 to exchange the above warrants for warrants of M.B. Limited (to be renamed MB Group plc) if the Scheme of Arrangement becomes effective, has been extended to 10th March, 1989.

Baring Brothers & Co., Limited is a member of The Securities Association and is the financial adviser to MB Group plc.

NOTICE TO WARRANTHOLDERS OF TOWA REAL ESTATE DEVELOPMENT CO., LTD.

US\$100,000,000
5 per cent. Guaranteed Bonds 1992

Pursuant to Clause 3 of the
Instrument dated 3rd October, 1988,
relating to the issue of Warrants, notice
is hereby given as follows:

1. On 27th January, 1989, the Board of
Directors of TOWA REAL ESTATE
DEVELOPMENT CO., LTD. (the
"Company") resolved to make a free
distribution of Shares of Common Stock
of the Company to be made on 10th May,
1989 to its shareholders of record as of
31st March, 1989, at the rate of 0.1 new
share for one share so recorded.

2. Such a free distribution will result in an
adjustment of the subscription price of
the Warrants as follows:

Subscription price before adjustment:
Yen 872

Subscription price after adjustment:
Yen 603.80

Effective Date: 1st April, 1989
(Tokyo time)

The Tokai Bank, Limited
London Branch
Principal Paying Agent

22nd February, 1989

NOTICE TO WARRANTHOLDERS OF TOWA REAL ESTATE DEVELOPMENT CO., LTD.

US\$40,000,000
3% per cent. Guaranteed Bonds 1991

Pursuant to Clauses 3 and 4 of the
Instrument dated 3rd December, 1988,
relating to the issue of Warrants, notice
is hereby given as follows:

1. On 27th January, 1989, the Board of
Directors of TOWA REAL ESTATE
DEVELOPMENT CO., LTD. (the
"Company") resolved to make a free
distribution of Shares of Common Stock
of the Company to be made on 10th May,
1989 to its shareholders of record as of
31st March, 1989, at the rate of 0.1 new
share for one share so recorded.

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Yen 872

Subscription price after adjustment:
Yen 603.80

Effective Date: 1st April, 1989
(Tokyo time)

The Tokai Bank, Limited
London Branch
Principal Paying Agent

22nd February, 1989

NORTH EAST LANCASHIRE

The Financial Times proposes to
publish this survey on:

Friday 31st March, 1989

For a full editorial synopsis and
advertisement details, please contact:

PHILIP DODSON
on 061 834 9381 (telex 666813)

or write to him at:

Financial Times
Alexandra Buildings, Queen Street,
Manchester M2 5HT

FINANCIAL TIMES
EUROPE'S BUSINESS NEWSPAPER

Residential Property Securities No. 1 PLC

£200,000,000

Mortgage Backed Floating Rate Notes 2018

The rate of interest for the three month period 20th February, 1989 to
22nd May, 1989 has been fixed at 13.21 per cent. per annum. Coupon
No. 4 will therefore be payable on 22nd May, 1989 at £1,328.36

Aggregate interest charging balances of Mortgages redeemed during the
previous interest period: £9,319.149.

Aggregate interest charging balances of Mortgages redeemed as at
19th February, 1989: £24,693,619.

The aggregate principal amount of Notes outstanding as at
19th February, 1989: £200,000,000.

S.G. Warburg & Co. Ltd.
Agent Bank

Notice of Redemption

U.S. \$50,000,000



The Sanwa Bank, Limited

Floating Rate Certificates of Deposit
Due 28th February, 1990

Notice is hereby given that, in accordance with Clause 3
of the Certificates, the Issuer will exercise the Call Option
and redeem all the outstanding Certificates at their
principal amount on 28th February, 1990 when interest on
the Certificates will cease to accrue.

Repayment of principal together with accrued interest will
be made upon presentation of the Certificates at the
London offices of the Issuer on 28th February, 1990.

Credit Suisse First Boston Limited
Agent Bank

INTERNATIONAL CAPITAL MARKETS

Foreign banks' Australian poser

Chris Sherwell on the wider implications of recent NatWest cuts

The recent decision by the Australian arm of Britain's National Westminster Bank to close eight offices and make a fifth of its employees redundant has graphically underlined the competitive problems facing foreign banks in Australia.

The bank, one of 16 chosen by the Government to receive full banking licences in 1985, has suffered losses of A\$65m (£341m) on its operations since setting up in early 1986, and is due to report its results shortly.

The painful and expensive consequences of its difficulties were announced by Mr Ron Goddard, chief executive, redundancies for 170 employees, closure of all but five offices of National Westminster Finance Australia, the group's finance company.

Yet the harsh truth is that very few of the 16 have enjoyed real success as full trading banks in Australia. Only Citibank, Royal Bank of Canada (with the National Mutual insurance group) and Chase Manhattan (with the AMP insurance group) have set up significant retail networks.

Citibank is acknowledged by most of its peers to have gone furthest, but through the

mechanism of agency arrangements rather than the costly process of setting up its branch network. Its best-known niche is in home lending.

National Mutual Royal, notwithstanding two building society acquisitions, has built up a sizeable branch network, as to a lesser extent, has Chase AMP. Both are reckoned to be finding the going tough.

Other banks, such as Standard Chartered, have made even less headway, while Bank America called off a plan to open outlets within the stores of the Coles Myer retail chain.

But a lack of branches is really only a symptom of the foreign banks' problems. The causes go deeper, and include the cold fact that Australia is a high-cost country for a relatively labour-intensive service industry like retail banking.

For a start, none of the new banks expected the Labor Government to choose as many as 16 new foreign entrants. Some bankers believe that the Government hoodwinked them with its seductive noises and its hints that the number might be as few as six.

The battle for market share was then sharpened further by stronger-than-expected competition from the local Big Four

trading banks, all of which responded quickly and impressively to the outside threat and are now reckoned to have neutralised it.

Deregulation of the financial sector meanwhile broke down the barriers which used to distinguish building societies, finance companies and other institutions from each other and from trading banks and merchant banks. Competition within the retail and wholesale sectors suddenly opened up.

Alas, these difficulties have been compounded by the strength of the Australian dollar, which has added to foreign banks' costs and by new rules of capital adequacy, which are boosting their cost of funding.

The end result is that some of the new foreign banks have actually been a disappointment, both to local bankers and to the Government. J.P. Morgan of the US has not even taken up its licence. The Japanese banks have made little attempt to expand beyond their existing local base.

Among those already operating as merchant banks, business has continued in much the way as it did before. In the case of Bankers Trust Australia is over-banked. Rationalisation is under way.

NAB warns on outdated settlement

By Chris Sherwell

FOREIGN INVESTORS will be driven away from the Australian stock market unless its antiquated settlement and clearing systems are revamped, the country's securities industry was told recently.

The warning came from the National Australia Bank (NAB) at a conference in New York on global custody services in the Asia-Pacific region, and was released simultaneously in Melbourne.

Mr John Gall, the bank's general manager for investment services, said the Australian stock markets were alone among the world's 15 largest in not providing a fixed settlement date.

"International investors are losing patience with the inability of the Australian securities industry to make meaningful changes," he said. "If we don't move to streamline our settlement and clearing systems, the Australian market risks losing much overseas portfolio investment."

The bank said Australia was criticised last year at an international symposium of securities administrators in Switzerland for its lack of a fixed settlement date and delays in the issue of share certificates.

According to Mr Gall, Australia needed a depository. Its insistence on the physical delivery of shares was at best inefficient, and periodically threatened to "drown the system in paper".

Even the planned new system of "flexible accelerated settlement and transfer," or FAST, would require the physical transfer of documents, and was only due to start trials with 25 companies in mid-1989.

Mr Gall said it failed to address the real problem of no fixed date settlement. Without that, it would do little to overcome Australia's poor standing in the international securities industry.

The stock exchange itself acknowledged back in 1987 that its greatest single problem was its out-of-date delivery and settlement system. Exchange officials have admitted that FAST is not the answer to its problems, and has confirmed there was still no agreement to go ahead with the "settlement transfer and registration" or STAR system which was abandoned in the wake of the October 1987 share market crash.

Outside parties are now believed to be contemplating ways to set up a separate system.

DnC's London unit improves

By David Lascelles,
Banking Editor

DENMARK'S Creditbank plc, the London subsidiary of the troubled Norwegian bank, made a pre-tax profit of \$10.2m (£13.1m) last year. It had a £10.5m loss the year before.

Mr Brian Hudson, the chief executive who took over on January 1, said the improvement came from good results in commercial lending and dealing. The bank has now closed down the investment banking operations which brought on part of the previous year's losses.

DnC specialises in shipping, property, aircraft, hotel and finance company lending. It operates autonomously and has relatively little direct Norwegian business.

Mr Hudson said the bank was now strongly capitalised with a risk asset ratio of 16 per cent. Total capital funds are \$138m, and total assets £125m.

FT INTERNATIONAL BOND SERVICE

Listed are the latest international bonds for which there is an adequate secondary market.

Closing prices on February 21
Bonds Bid Offer day yield Yield
Change in
Interest rate

US DOLLAR STRAIGHTS	Bonds	Change in Interest rate	Bonds	Bid	Offer	day yield	Yield
Abbey National 7½ '92	200 97.50 97.50 +0% 10.01		Belgian 5½ '92	100 101.25 101.25 +0% 10.01			
B.F.C. 7½ '92	200 97.50 97.50 +0% 10.01		Belgian 4½ '94	100 98.50 98.50 +0% 9.82			
B.C. Tel. Tel. 95 '95	200 97.50 97.50 +0% 10.19		Canada 5½ '92	100 100.25 100.25 +0% 10.15			
Canada 9 '92	200 97.50 97.50 +0% 10.19		Ireland 5½ '92	100 100.25 100.25 +0% 10.15			
Camco 9 '94	200 97.50 97.50 +0% 10.19		Norway 5½ '92	100 100.25 100.25 +0% 10.15			
C.R.C.E. 5½ '93	200 97.50 97.50 +0% 10.19		Rep. of Ireland 5½ '92	100 100.25 100.25 +0% 10.15			
C.R.L.A. 5½ '93	200 97.50 97.50 +0% 10.19		Switzerland 5½ '92	100 100.25 100.25 +0% 10.15			
Credit Lyonnais 9 '91	200 97.50 97.50 +0% 10.19		Average price change	100 99.00 99.00 +0%			
Credit N.Y. 9 '91	200 97.50 97.50 +0% 10.19						
Credit N.Y. 7 '92	200 97.50 97.50 +0% 10.19						
Credit N.Y. 5 '93	200 97.50 97.50 +0% 10.19						
Credit N.Y. 4 '94	200 97.50 97.50 +0% 10.19						
Dai-ichi Kan 9 '92	200 97.50 97.50 +0% 10.19						
D.E.S. 5½ '92	200 97.50 97.50 +0% 10.19						
E.E.C. 7 '93	200 97.50 97.50 +0% 10.19						
E.E.C. 9 '90	200 97.50 97.50 +0% 10.19						
E.I.T. 9 '91	200 97.50 97.50 +0% 10.19						
E.I.T. 9 '92	200 97.50 97.50 +0% 10.19						
E.I.T. 9 '93	200 97.50 97.50 +0% 10.19						
E.I.T. 9 '94	200 97.50 97.50 +0% 10.19						
E.I.T. 9 '95	200 97.50 97.50 +0% 10.19		</				

UK COMPANY NEWS - THE RECKONING AT NATIONAL WESTMINSTER

Lending volumes up sharply but competition beginning to affect growth
Profits ahead of expectations at £1.4bn

By David Lascelles, Banking Editor

NATIONAL Westminster Bank, the UK's largest clearing bank, exactly doubled its profits last year to £1.407bn, although the comparison with 1987 was distorted by heavy provisions against Third World loans that year.

Lord Boardman, the chairman, said the increase, after adjusting for the special provisions, was of the order of 15 per cent, which he described as "an impressive performance in particularly challenging market conditions."

Retained profit was £720m, up from £361m. The bank is increasing its dividend by 18 per cent to a total of 22.3p, the final payment being 19p. Earnings advanced to 123p (57p).

The improved profits, which were at the higher end of the City's expectations and gave a fillip to the stock market, came from most of NatWest's operating divisions, with the notable exception of County NatWest, its troubled investment banking subsidiary. That lost £56m because of depressed equity and capital markets around the world.

The major contributor to profits was domestic banking with £1.005bn, an operating increase of 9 per cent. NatWest continued to attract new customers, and lending volumes

grew sharply, with sterling advances up 22 per cent. But there are signs that increased competition is beginning to affect business growth: margins are narrowing, and lending is slowing down, particularly on the personal side.

International banking earned £280m, against a £23m loss the previous year caused mainly by Third World provisions. This included a contribution of £106m from NatWest's growing US subsidiaries. Provisions against problem country loans were £24m, down from £56m. The cover rose slightly to 35 per cent.

Related banking services earned £178m, a rise of 12.5 per cent. The main factors in this rise were London North Central, the asset-based finance company which made £120m (up from £105m), and NatWest Insurance Services with £25m (£22m). NatWest Home Loans, the mortgage subsidiary, suffered a small fall in profits from £79m to £78m because of the effects of higher interest rates on the housing market. Mortgages outstanding rose by 12 per cent.

NatWest's total assets grew by 13 per cent during the year to £98.6bn. The group also revalued its properties and



Tom Frost, group chief executive (left) and Lord Boardman, chairman.

added £585m to the revaluation reserves. There is to be a one-for-one scrip issue amounting to £75m, which will be capitalised to the tune of £600m from the property revaluation reserve, and the remainder from the share premium account.

Analysts said yesterday that NatWest's move is likely to cause controversy among other clearing banks because of lack of certainty over whether such tactics were permissible. However Mr Burns said the capital

isation of the revaluation had been approved by the Bank of England.

Mr John Burns, the chief financial officer, said that this action, which should have no effect on the share price, would enable NatWest to boost its equity capital. NatWest estimates that its risk asset ratio under the new Basle rules is 9.8 per cent, ahead of the internationally agreed minimum of 8 per cent.

Lord Boardman stressed that NatWest does not expect to make any strategic moves that cannot be financed by its own resources or debt issues. "We have no plans for a rights issue," he said.

Mr Tom Frost, the group chief executive, said that NatWest was strongly placed in its chosen domestic and overseas markets, and was poised for further progress and increased profitability. Trading in the early weeks of 1989 has been satisfactory and the bank is confident about the prospects for the year as a whole.

ANALYSIS OF GROUP PROFIT BEFORE TAX

	1988	1987
£m	£m	£m
The Bank*	805	740
International Westminster Bank	147	(178)
London North Central Group	120	108
National Westminster Bank	105	95
National Westminster Home Loans	78	78
NatWest Investment Bank Group	(56)	(116)
Ulster Bank Group	48	38
National Westminster Insurance Services	35	25
Others (net)	9	28
Associates - Si Group	64	28
- Yorkshire Bank	40	35
- Others	11	18
Group profit before taxation	1,407	704

* Less dividends from associates of £16m (1987 £16m)

Acquisition costs and fraud hit Handelsbank

NATWEST's SWISS subsidiary, Handelsbank, reported only a nominal profit last year of SFr 2m (£700,000), writes David Lascelle.

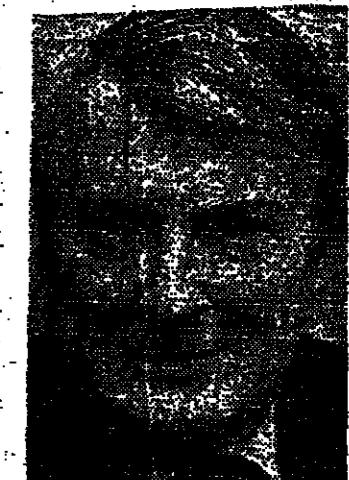
This was after absorbing the cost of an acquisition and a fraud by a director of its asset management business. As a result the Zurich-based bank will pay no dividend.

Handelsbank said it was making a total charge of SFr 50m, which would be partly covered by a transfer of SFr 41m from inner reserves.

MR TOM FROST, NatWest's chief executive, yesterday identified the two key challenges facing his bank: competition and costs.

Of the two, the second is the one over which NatWest has the greater control. Yet the results showed costs rising at an accelerating rate, writes David Lascelle.

The total increase in costs was 21 per cent to £3.2bn, compared to a rise in underlying profits of 15 per cent. Personnel costs were up 21 per cent with the fastest rising costs



Howard Macdonald: time on his side.

into investment banking, Lord Boardman said. "If there were lessons to be learned, they have been learned, and action will have been taken."

NatWest executives were wary of predicting how County's fortunes would turn out this year. Mr Macdonald, the new chief executive, said there had been a bearish upturn in market activity in the early weeks of this year, but he feared this might only encourage marginal players to hang on when capacity needed to be reduced.

Lord Boardman said Mr Macdonald could have "as long as he wants" to turn County round.

Other executives said it was possible that County might be operating profitably by the end of this year, but this was hard to forecast because so much depended on the fortunes of the securities markets.

Costs have risen 21% to £3.2bn

£1.9bn and the number of people employed by the group was 111,000, up from 102,000.

While much of this increase was due to acquisitions and capacity expansion to meet higher business volume, NatWest's ratio of total costs to income - the key efficiency measure - rose from 66 per cent to 67 per cent.

The rise was said by NatWest to be in line with the budget for the year. But the increase is likely to leave it with the fastest rising costs

COMPANY NEWS IN BRIEF

ALBRIGHT & WILSON, maker of chemicals and allied products, announced trading profits of £49.2m for 1988, compared with a previous £46.6m. Sales rose from £850.2m to £955m. Its ultimate holding company is Stentiford Close Regis, Tennessee, USA.

ALLIED RESTAURANTS' rights issue of 1.92m new ordinary shares has been taken up in respect of 1.72m shares (89.32 pence).

FORD-SELAAR-Morris Properties' option to acquire 7.1 per cent of capital of London & Overseas Land, owned by the Lovett family, has been extended to be exercisable between April 20 and May 7 this year. But it will lapse if FIMM does not announce its intention to make an offer for the whole of LOL by February 27.

HAMPSON INDUSTRIES has

acquired the PB Group, a Kent-based manufacturer and supplier of aluminium products for use in double glazing. The deal will be financed via the issue of £2m worth of cumulative convertible redeemable preference shares, of which £200,000 worth will be placed. The balance will be retained by P. Bingham, the principal shareholder in PB.

HOGG ROBINSON & Gardner Mountain & Capel-Cure Agencies, the wholly-owned Lloyds members' agency of HFGM, has acquired EC Webb (Underwriting) for about £135,000 cash. Further consideration of about £100,000 is dependent on future results.

LEIGH INTERESTS has acquired a waste disposal business at Cliffe, near Selby, from Mr Michael Simpson. It will be combined with J E Bartram to consolidate the company's position in the area. Mr Simpson will retain his helicopter spraying and property interests.

MTM, speciality chemicals manufacturer, announced details of 15.5m share issue to fund purchase of JD Campbell & Sons, agrochemical producer. It is issuing 3,283,588 shares at 167 1/2p, of which 2.0m have been placed with institutions. 712,538 will be acquired by a company in which Mr Richard Lines, MTM chairman, has a beneficial controlling interest and 519,407 will be retained by the vendors.

BODIME will be making about 100 additional manufacturing and administrative employees in the US redundant during the second quarter of 1989. Manufacturing at Boca Raton, Florida, will accordingly cease and that plant used only for rental product assembly and disk drive engineering. Fifty employees at Boca Raton were made redundant on February 17.

VICTOR PRODUCTS - The offer for the preference shares has been accepted by holders of 610,683 preference (79.9 per cent). The conditions have been declared wholly unconditional and remain open.

YEARLINGS - The interest rate for this week's issue of local authority bonds is 12 1/2 per cent, up 1/2 of a percentage point from last week, and compares with 9 1/2 per cent a year ago. The bonds are issued at par and are redeemable on February 28 1990. A full list of issues will be published in tomorrow's edition.

PROVIDENT FINANCIAL GROUP

1988 RESULTS

Group remains a dominant force in 'small loans' industry

EXPANSION AND INNOVATION ELSEWHERE:

- CAR CARE PLAN MOVING INTO EUROPE
- WHITEGATES ESTATE AGENCY EXPANSION CONTINUES
- COLONNADE INSURANCE BROKERS TO INCREASE RATE OF EXPANSION
- INVESTMENT PORTFOLIO TO GROW
- DEVELOPMENT OF NEW HIRE PURCHASE SUBSIDIARY
- MENTOR INTERACTIVE TRAINING A MARKET LEADER IN TECHNOLOGY BASED TRAINING

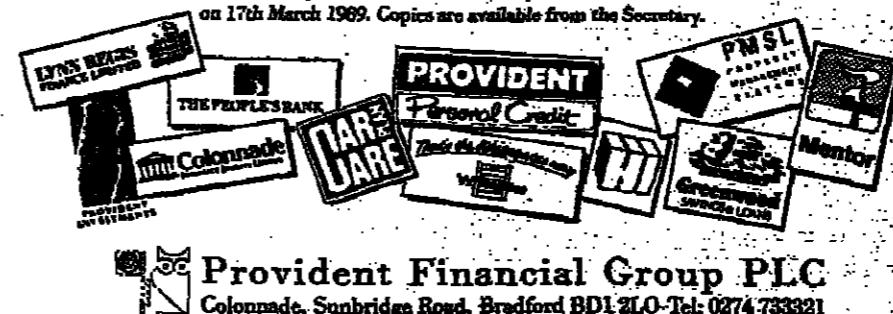
Results at a glance

for the year ended 31st December 1988.

1988 1987

Turnover	£217.7m	£209.4m
Profit pre-tax	£23.2m	£22.7m
Earnings per share	37.19p	36.07p
Dividend per share	16.0 p	16.0 p

The 1988 Report and Accounts will be posted to shareholders on 17th March 1989. Copies are available from the Secretary.



Provident Financial Group PLC
Colonade, Sunbridge Road, Bradford BD1 2LQ Tel: 0274 733321

MBOS - WHO'S NEXT

BPCC

buy-out - January 1989
Finance raised £265 million

HAYS PLC

buy-out - November 1987
Finance raised £260 million

HUMBERCLYDE FINANCE GROUP

buy-out - September 1987
Finance raised £204 million

CARADON PLC

buy-out - October 1985
Finance raised £6.7 million
FLOTATION - JULY 1987

FAIREY GROUP PLC

buy-out - December 1986
Finance raised £50 million
FLOTATION NOVEMBER 1988

RENTICO INTERNATIONAL

buy-out - May 1987
Finance raised £45.8 million
SALE TO TIPHOOK PLC DECEMBER 1988

NKF HOLDING BV
(led by Candover's Netherlands Associates, Venture Capital Investors BV)
buy-out - December 1986
Finance raised £38.4 million
FLOTATION (AMSTERDAM) MAY 1988

DWEK GROUP

buy-out - September 1988
Finance raised £38.1 million

TALLENT ENGINEERING

buy-out - January 1989
Finance raised £11 million

RECHEM ENVIRONMENTAL SERVICES PLC
buy-out - December 1985
Finance raised £2.25 million
FLOTATION - MAY 1988



Candover Investments are leaders in management buy-outs. We have organised over forty buy-outs world-wide ranging in size from £1 million to £265 million, the latest being BPCC and Tallent Engineering earlier this year.

Candover has invested in all of them and our judgement has been rewarded by their success.



CANDOVER INVESTMENTS plc

Cedric House, 8-9 East Harding Street, London EC4A 3AS.
Issued by Candover Services Limited, a member of FINBRA.

Serious
moment

UK COMPANY NEWS

Likely grounding for space retailer

David Waller on the colourful career of Local London in the light of yesterday's bid

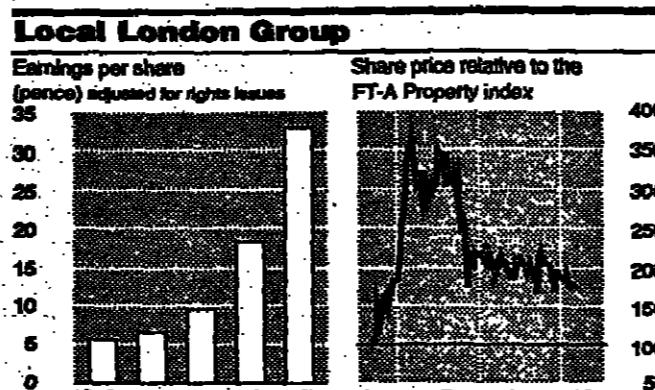
ONLY LAST Friday, Marina Development Group declared that it had given up hope of finding a white knight in its bid battle with Local London. Yesterday, a saviour turned up in the form of Priest Mansions, an acquisition-minded property company which has made a bid for Local London.

Having won the backing of Brent Walker's 29.4 per cent holding, Mansions easily managed to pick up another 20 per cent of its target yesterday. Unless Local London itself finds a white knight, its brief as a small, innovative, spectacular stock market survivor would appear to be over.

Local London was a classic "bull market" stock. From the moment that it joined the Unlisted Securities Market in September 1986 until the crash just over a year later, its shares were exceedingly highly rated by investors. They had faith in the company's management, led by brothers Graham and Robert Bourne, in the business centre concept that Local London had pioneered and in the company's potential for above-average growth.

As with many other go-go stocks of the pre-crash era, the process was self fulfilling. The high rating meant that it was easy to push out shares to make earnings-enhancing acquisitions.

Local London grew from a market capitalisation of a mere £5.6m when it floated, doubling its size a few months later with



from the sale of services and rental space. Dealing profits were - and still are - a separate source of income altogether.

The crash dealt a severe blow to Local London, as it did to many companies which seemed to owe their growth prospects to the ability to push out vast quantities of paper.

The shares underperformed the market at a whack by no less than 55 per cent in the three weeks following Black Monday. Although they subsequently recovered a little, they have made a dreadful investment since the crash, underperforming the property sector by 42 per cent.

In a bear market, investors were no longer willing to accept the argument that it should be valued on the basis of earnings. This was brought home to investors at the

interim stage last September.

Pref-tax profits more than doubled to £5.2m and earnings were up 77 per cent. Nevertheless, such was the increase in overheads at the business centres that licence and rental income grew by only a fraction, from £2.03m to £2.14m.

The rest of the profit came from property-dealing. The increase was commendable, but Local London's claim to a premium rating disappeared.

What stopped the shares from sinking back to a conventional discount to asset value, like any other property company, was Brent Walker's Mr George Walker, who pitched in the following week to buy 14.9 per cent of the company at 50p a share.

Priest Mansions intends to sell off Local London's non-core businesses. Nevertheless, shareholders will be entitled to ask what gearing will be following the cash acquisition - and whether the company has the management resources to run a company such as Local London.

Stanley buys casinos from Brent Walker

By David Waller

UK COMPANY NEWS

Capco beats forecasts with £43.5m

By Clare Pearson

CAPITAL & COUNTIES, the property group which is a subsidiary of South African-controlled Transatlantic Holdings, yesterday surpassed City expectations with its increase in pre-tax profits and net asset value for the year to end-December.

Pre-tax profits rose 75 per cent to £43.5m. The rise was helped by a turnaround from a net interest payable figure of £1.6m to £7.1m receivable, reflecting a £188m rights issue in July 1987 as well as capitalisation of interest on the development programme.

The revaluation surplus on investment properties was £12.6m of which the UK contributed £10.8m. Total assets

reached more than £1bn, a 42 per cent increase. Net assets per share rose 23 per cent to 492.5p (400.5p).

Mr Ray Moorman, managing director, said the major elements in the revaluation surplus were the properties in London's West End properties, some of which were boosted by 50 per cent, reflecting the growth in rental levels during the year.

Earnings per share were 22 pence higher at 20.3p (16.8p). The final dividend is increased to 6.25p (5p), making 10.5p (8.5p) for the year.

Property investment contributed £31.9m (£25.4m) to operating profits on a turnover of £51.1m (£43m). Property trad-

ing put in 28.8m (£4.6m) on £23m (£1.3m) turnover.

Capco's element of its development programme amounts to £500m. The most important elements are three projects at Bromley, Watford and Thurrock, Essex totalling 2.25m sq ft. During the year the company acquired sole control of the Thurrock development, buying out Pearson, its partner, for £64m in shares.

After various financing arrangements last year, the company has this month arranged a 2400m seven-year syndicated loan facility.

Mr Moorman said despite the boom currently overshadowing the retail sector, Capco has seen no signs of weakening in sales from retailers.

• **TransAtlantic Holdings** reported pre-tax profits of £52.5m (£36.1m) for 1988. Earnings per share were 15.53p (13.14p) and net assets at the end of the period were 381p, against 336p a year earlier. Mr Donald Gordon, chairman, said it had been a year of outstanding progress.

Whatever adverse sentiment may surround companies as heavily involved in real property as Capco is, in fact it is this area of its business that provides the chief source of interest as the company awaits the substantial surpluses which will be coming through on its three major developments. These - and especially Thurrock, which is the only major shopping centre development on the M25 motorway to have received planning consent, and is due to be completed in 1990 - could hardly be better positioned and are all, according to the company, proceeding to budget. Prospects for these developments, together with the extremely high esteem in which followers hold the management, may suggest that the shares at yesterday's price of about 380p against a 555p forecast for net assets per share for the year to December, are rather cheap. However, their limited marketability argues against them. December 1990 is expected to see net assets standing at about 630p per share.

Mr David Williams, Mosaic's development director, said yes-

Mosaic Invs buys John Anthony Signs for £4m

By Andrew Hill

MOSAIC INVESTMENTS, the expanding industrial holding company, has moved into another fragmented market with the acquisition of John Anthony Signs for up to £4.1m in shares.

The acquisition, and a placing of further new shares to raise £975,000 for future purchases, will dilute the 25 per cent stake held in trust by Mr Gregory Hutchings and his family to about 15 per cent. Mr Hutchings is chief executive of Tomkins, the industrial group.

JAS makes and installs illuminated and non-illuminated signs and will form part of Mosaic's consumer products and services division.

Mr David Williams, Mosaic's development director, said yes-

Really Useful stages poor performance at six months

By John Thornhill

REALLY USEFUL, Mr Andrew Lloyd Webber's leisure group, staged its first poor financial performance yesterday when it reported a fall in pre-tax profit to £2.6m in the six months to December 31, a 3.4 per cent decrease from £2.8m in the previous period.

The acquisition, and a placing of further new shares to raise £975,000 for future purchases, will dilute the 25 per cent stake held in trust by Mr Gregory Hutchings and his family to about 15 per cent. Mr Hutchings is chief executive of Tomkins, the industrial group.

JAS makes and installs illuminated and non-illuminated signs and will form part of Mosaic's consumer products and services division.

Mr David Williams, Mosaic's development director, said yes-

he mentioned the disappointing performances of Aurum Press, its publishing company, Interactive Information Systems and The Really Useful Record Company.

He said that the principal core activities remained sound, however, and that the board's decision to declare an increased interim dividend of 5p (4.5p) was a sign of its confidence.

Although revenue from Cats was now declining, Phantom of the Opera was still increasing its contribution. A new show,

Aspects of Love, is due to open in London this spring. Immediately afterwards, the concert presentation division will undertake a major tour throughout North America.

The interim results included an exceptional £833,000 profit on the sale and leaseback of a freehold office in Soho. But this was almost balanced by an £800,000 exceptional charge reflecting the cost of compensation to Mr Brian Broly, the former managing director, who left Really Useful at the end of last year.

Gartmore Info asset fall

NET ASSET value per 25p share of the Gartmore Information & Financial Trust declined from 56p to 52.6p over the 12 months ended December 31 1988.

However, despite difficult trading conditions earnings per share edged ahead to 1.68p (1.62p) and a final dividend of

1.025p raises the total from 1.3p to 1.5p.

For the current year the trust will concentrate the UK element of its portfolio into fewer stocks, comprising a mixture of large capitalisation issues and some substantial interests in smaller companies offering above-average growth.

Mr Moorman said despite the gloom currently overshadowing the retail sector, Capco has seen no signs of weakening in sales from retailers.

• **TransAtlantic Holdings** reported pre-tax profits of £52.5m (£36.1m) for 1988. Earnings per share were 15.53p (13.14p) and net assets at the end of the period were 381p, against 336p a year earlier. Mr Donald Gordon, chairman, said it had been a year of outstanding progress.

Windsor predicts return to dividend in current year

By Nikki Tait

Mr Stanley Taylor, chairman of Windsor, told shareholders at yesterday's annual meeting that he expected the company to recommence paying dividends after publication of figures for the current year.

Income in the first four months of the current year was slightly above budget, he said, and expenses were as anticipated. Provided the situation was maintained, he predicted a "reasonable" trading profit for 1992.

He did, however, point out that most of the company's profit came in the second half.

The company, which has made a number of acquisitions over the past few years and also seen several key management changes, made a £103,000 loss before tax in the 12 months to end-September and passed the dividend.

The loss, however, was after a £330,000 exceptional charge - largely due to consultancy fees.



Greg Hutchings: chief executive of Tomkins

yesterday: "We see the acquisition as another tie in place."

Windsor is paying an initial 23.11m for JAS, with a further 21m payable if pre-tax profits reach £1.27m in any of the financial years up to April 1992.

In the year to August 31 1988, JAS made a profit of £629,000 before tax on sales of £2.7m.

Most of the 1.17m ordinary new shares to be issued by JAS will be placed out with institutions, as will a further 496,110 shares in an additional placing. They will be offered to shareholders at 265p a share, against yesterday's closing price of 285p, down 5p, on the basis of one new share for every five held.

The group's other interests include industrial products, and bar and catering accessories.

Michael Peters surpasses City hopes with advance to £1.07m

By Alice Rawsthorn

MICHAEL PETERS, the USM quoted design group, saw its share rise by 5p to 124p yesterday when it surpassed the City's expectations by announcing a sharp rise in pre-tax profits from £580,000 to £1.07m in the first half of the year.

The City had expected a smaller increase because of the problems of Hamblett Terrell International, the US retail design company that Peters bought a year ago. HTI has been hit by the downturn in US retail design and by the disruption caused by Campeau's bid for Federated Stores, one of its biggest clients.

HTI broke even in the first half and is expected to make a small profit in the second. The contribution from Peters' other acquisitions and new ventures, such as corporate identity,

combined with organic growth in the established business compensated for its poor performance.

The group saw sales increase to £18.05m (£7.52m) in the six months to December 31. Earnings per share rose to 5.11p (4.68p) and the interim dividend is raised to 1.7p (1.5p).

Peters' activities now embrace six areas. The two largest - packaging and brand identity together with architecture and retail interiors - accounted for over half of its sales in the interim period. It is also involved in corporate literature, product development, specialist communications and corporate identity.

Mr Michael Peters, chairman, said every area had fared well in the first half and all the UK companies increased their involvement with projects in

other countries. The growing awareness of design in Europe, coupled with the competitive pressure on consumer goods companies, should, he said, ensure a strong performance for the full year.

Since the end of the interim period Peters has expanded in specialist communications by buying Communiqué in Canada. It has also acquired John Nicholson Associates, a management consultancy consultancy in the UK. The group's gearing now stands at about 70 per cent.

According to Mr Peters, the group is now established in its major areas of activity. It may make some small acquisitions in the next year or so, he said, but was ready to "move forward fairly rapidly".

Provident Financial just ahead

By Clare Pearson

PROVIDENT FINANCIAL Group, the consumer lender with about 10,800 door-to-door agents, lifted pre-tax profits from £26.7m to £28.2m in 1988 on turnover of £417.7m compared with £409.4m.

Slow growth continued in its chief activity of providing weekly-collected credit. It has been pursuing a policy of concentrating on repayments rather than the issue of new credit. This was conceived

after a rise in arrears two years ago, triggered by an earlier drive for growth.

Modest turnover growth in the core business was reflected in the retail business, which sells goods to credit customers.

With the additional problem of reorganisation costs at one of the retail headquarters, retail profits halved to £660,000.

Mr Peter Hogg, deputy managing director, said growth in the core business should be stronger this year thanks in part to a new, fast-dissolving shopping voucher.

After tax of 25.59m (£8.93m), earnings came out at 37.19p (34.07p). The final dividend is 15p (11.5p), making 18p (16p).

COMMENT

Provident's share price slipped 15p to 245p yesterday partly because its statement that this

year will see a resumption in growth in the core business struck a hollow note. There are bound to be question marks over the vigour of its new-found marketing drive in the light of its obsessive concentration over the last three years on keeping the backsliders off its lending books. And its report that demand for consumer credit was sluggish in the pre-Christmas period does not help: why this should have happened, since its predominantly council house tenant clients are hardly interest rate sensitive, is not clear. Meanwhile, its other financial interests look a bit too diverse for comfort. The main attraction of the shares is the yield of around 7.5 per cent. This assumes Provident makes £80m pre-tax this year, to give a prospective p/e of over 8.5.

Unilever set to buy Dutch food maker

By Christopher Parkes, Consumer Industries Editor

UNILEVER, the food and consumer products multinational, is negotiating to buy Profood, a private Dutch manufacturer of chilled convenience foods.

Profood was set up in 1987, and makes mainly pasta dishes which can be kept fresh in a refrigerator for several weeks. It employs 35 people at Oldenzaal in the eastern Netherlands, supplies some 600 Dutch outlets, and recently started exporting to Scandinavia.

Convenience meals, which need no preparation beyond heating, and pasta have both been earmarked as priority areas for expansion by the board. It is especially interested in products with a long shelf life, which might be distributed from central manufacturing sites across large markets such as the US and, after completion of the internal market in 1992, the European Community.

The deal will give Unilever a ready-made factory and access to new microwave pasteurisation technology which may be

Ewart in midterm upsurge

Continental and Ind

Net asset value per 25p share of Continental and Industrial Trust was virtually static at 910.5p on December 31 1988, compared to 910.2p a year earlier.

Profit before tax was £13,847 (£13,642) and earnings per share were 53.31p (52.39p). The final dividend is 30p for an unchanged 50p total.

Profits of Bank Leumi (UK) for the 1988 year rose from £1.64m to £2.63m after tax and transfer to inner reserves. Retained profits emerged at £1.74m compared with £1.17m.

A final dividend of 9.4p lifts the total from 12.4p to 13.5p. Shareholders are again offered a cash or share alternative in respect of the final payment.

The chairman said the company had net assets of £18m (1.17p per share) and a development programme of some £70m in various projects, both wholly-owned and joint ventures. These should provide a substantial profit stream over the next few years to complement investment income from existing properties and subsidiaries.

Mr McIlroy said it was hoped to start trading in the Republic of Ireland before the end of the financial year. Proposals were in hand for a listing in Dublin.

Bank Leumi's share price slipped 15p to 245p yesterday partly because its statement that this

Piccadilly Radio delays merger decision for another month

By Ian Hamilton Fazey, Northern Correspondent

PICCADILLY RADIO'S much-adjudged extraordinary general meeting was adjourned twice more yesterday before shareholders finally agreed to put off until March 20 a decision on whether to merge with Midlands Radio.

The meeting had been originally scheduled for February 6 but was postponed for two weeks after Miss World, the local radio and entertainment company, launched a £36m bid for Piccadilly.

Shareholders eventually gathered in Manchester on Monday but an increased offer from Miss World - worth £38m, or about 400p per voting share - caused a series of adjournments as Piccadilly directors retired to consider their position.

If shareholders hoped that matters would be settled yesterday, they were disappointed.

The actual business of the meeting occupied little more than three minutes in aggregate but those minutes were spread over nearly 2½ hours while the Takeover Panel agonised in London over whether to allow the Midlands merger plan to be extended past its February 27 deadline.

The panel initially wanted Midlands Radio's consent to the extension, but Midlands wanted a vote on the issue. In the end, the panel decided to grant Piccadilly's request.

The meeting resumes again, the vote on the merger with Midlands will be put second.

If the first vote is in favour of amending Piccadilly's articles, this will represent consent for the company to merge with Miss World rather than Midlands.

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the Red Rose radio chain, has made rejection of the merger with Midlands a condition of its bid. The Independent Broadcasting Authority forbids radio stations under one ownership to cover more than 15 per cent of the total UK audience, a limit which would be breached by a Red Rose/Piccadilly/Midlands combination.

Barclays de Zoete Wedd, Piccadilly's adviser, warned the board that Miss World's bid was too good to be rejected before all shareholders had been given time to study it in detail.

"The issues will now be voted on in a logical order, so that everyone will be certain of what they are doing," one adviser said after the meeting.

Mr Owen Oyston, Miss World's chief executive, indicated that full details of the company's offer would be forthcoming. He said after the meeting: "It has been a very satisfactory day from our point of view."

However, he has not won yet. Pic

FINANCIAL TIMES WEDNESDAY FEBRUARY 22 1989

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February 1989

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Capital & Counties plc was advised throughout
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February 1989

*HP4 in 110***UK COMPANY NEWS****Yorks Chemicals surges to £8.5m**

By John Thornhill

SHARES IN Yorkshire Chemicals, the manufacturer of dyes, tanning materials and speciality chemicals, jumped 21p to 316p when the group announced a 35.9 per cent increase in pre-tax profits in the year to December 31.

The profits increase, from £5.6m to £8.5m, was achieved on turnover up 20.7 per cent to £55m (£48.9m). Earnings per share rose 36.7 per cent to 36.5p (26.7p) and a recommended final dividend of 7p will make a total of 10p (7p).

Yorkshire said the rise reflected fundamental improvements in manufacturing and marketing efficiencies and an encouraging contribution of £415,000 profit from Nachem, the Boston-based speciality chemicals manufacturer which

it acquired in May 1988. Overseas sales rose by 26 per cent to £51m, but turnover in the UK fell to £7.9m (£8.3m).

Mr Phillip Lowe, chairman, said yesterday that he was impressed with the results but thought they could have been a "hell of a lot better" had it not been for the high exchange rate and problems with sulphur production at its Selby site.

He estimated that sterling's strength had reduced operating profits by about £1.7m.

Trading conditions had been mixed during the year, he said. Demand for textile dyestuffs and speciality chemicals had been strong, but the market for leather process chemicals was depressed, particularly in the UK.

Operating profits by division were: colours £6.4m (£4.9m); specialty products £1.2m (£1.8m); Australia £1.1m (£864,000); and Americas £1.6m.

Capital investment and acquisition expenditure was £6.5m compared with £4.1m in 1987. This was financed from trading cash flow and the group remained unguaranteed by the year end.

• COMMENT

Yorkshire is certainly no pushover when it comes to producing profits. These results were ahead of City expectations, accounting for the steep rise in the share price. The cyclical nature of the dyestuffs industry and the poor state of demand in the UK textiles and tanning industries causes some reservations, but strong overseas sales provide a good safeguard. The tax charge will rise this year to about 30 per cent, as ACT credits its run out, which will impinge on earnings growth but the group believes that it will be able to maintain its current momentum in future years; an opinion shared by many analysts. Forecasts are difficult to make given the group's uncanny habit of confounding them, but assuming a pre-tax profit of £10m, the prospective p/e ratio would be about 8. The group claims consistently achieved the highest rate of growth in earnings per share of any UK quoted chemical company. On that form, Yorkshire's shares look decidedly under-rated.

Doctus directors in rescue plan for Spice

By Andrew Hill

THREE DIRECTORS of Doctus, the quoted management consultancy, are to provide an injection of cash and new management for Spice, the troubled motor parts distributor.

Mr Richard Fleming, Doctus's chief executive, is to become Spice's managing director, and a rights issue will raise about £3m, in an attempt to return Spice to profit.

Spice is to issue 7.07m new ordinary shares on the basis of five new shares for every six held, at 45p each compared with yesterday's closing price of 70p, down 5p.

Major shareholders, including Mr Gordon Spice, the group's chairman, have renounced their rights in favour of an investment partners, Blake Birchall and

Fleming, set up to underwrite part of the issue.

The other founders of BBF, which will hold up to 28.5 per cent of Spice's enlarged capital, are Mr Brian Blake, Doctus's chairman, who will take over the chief executive role at Doctus from Mr Fleming, and a third Doctus director, Mr Alex Birchall.

Spice's last managing director resigned in December, when the company warned that it would do little better than break even in the year to September 30. The finance director resigned a month later, just before Spice announced a drop in pre-tax profits from £1.25m to just £22,000.

The company said yesterday that investigations had

revealed severe accounting and cash flow problems caused mainly by computer systems failures at the group's new

National Distribution Centre. Mr Fleming said Spice badly needed help managing the change to computerised national distribution. When NDC was set up last year, Spice's different computer systems were unable to "talk" to one another, he said, and concentrating on NDC and acquisitions had distracted the company from the core automotive parts business.

BBF had been set up to invest in troubled situations, added Mr Fleming, in particular where it could have a say in the management of under-performing companies. He said the partnership would look at further investment opportunities among quoted groups, but was more likely to fund private businesses.

Cityvision acquires another 25 outlets

By Nikki Taft

CITYVISION, which operates one of the largest chains of video rental shops in the UK, is buying a further 25 outlets for a maximum of around £3m.

Sixteen of the stores are owned by a private company called Seed and Schofield, which trades as Variety Video and has outlets principally in the North-West. It is represented in Accrington, Black-

pool, Preston, Wigan and Widnes. It also has plans to open a further four stores.

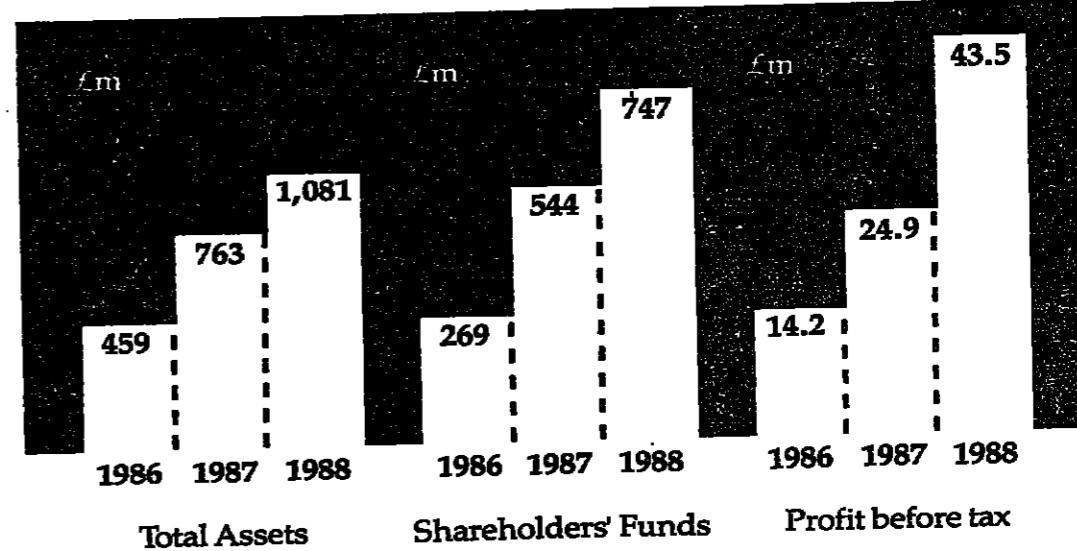
Cityvision is paying the equivalent of annual turnover for the group. But, because of new store openings, part of this is on a deferred basis. At the outset £1.65m will be paid, of which a maximum £750,000 comes in cash and the remainder in Cityvision shares.

The additional consideration will be become payable at end-1989. Cityvision says that annual turnover at the group is "in excess of £22m" - and that it expects the deferred amount to be around £700,000.

The second purchase is Central Mark, which trades at Cinema 625. It has nine stores, stretching from Leeds to Clevedon. Turnover is around £1m.

Initial payment is £300,000 in Cityvision shares. A further maximum £500,000 is payable based on net rental turnover for the six months following completion.

Cityvision says that both businesses are operating profitably. It now has over 250 stores in the UK, and aims to have between 300 and 400 by the end of the year.

**CAPITAL & COUNTIES****Growing from Strength to Strength****1988—RESULTS**

Profit before tax	£43.5 million	+75%
Earnings per share	20.3p	+22%
Net Assets per share	492p	+23%
Total Assets	£1.1 billion	+42%
Shareholders' Funds	£750 million	+37%

These figures are an extract of the Preliminary Announcement issued on 21st February 1989. For a copy of the detailed Preliminary Statement or the Company's Annual Report to be issued in March, please contact the Company Secretary, St Andrew's House, 40 Broadway, London SW1H 0BU, Tel: 01-222 7878.

The contents of this statement have been approved for the purposes of Section 57(1) of the Financial Services Act 1986 by Gowers & Lytham who are authorised by the Institute of Chartered Accountants in England and Wales to carry on investment business.

COMMODITIES AND AGRICULTURE

Judge rules ITC members do not have immunity

By Raymond Hughes, Law Courts Correspondent

FOREIGN STATES who are members of the International Tin Council do not have sovereign immunity against damages claims based on alleged reckless or fraudulent misrepresentation brought against them by the ITC's creditors, a High Court judge has ruled.

Mr Justice Evans said yesterday that the states were subject to the jurisdiction of the English court because of the commercial nature of the transactions that gave rise to the creditors' claims.

However, the ruling may prove to be an empty victory for the creditors in their battle to be paid money the ITC received when it collapsed into insolvency in October 1985.

It merely puts the foreign states in the same position as the UK, which, the judge held, had no defence under an 1828 Act that would probably defeat the fraudulent misrepresentation claim.

Mr Justice Evans was giving judgment on applications by the ITC's members — the UK, 22 other states and the European Community — to strike out actions by six bank and nine broker creditors. The orders to be made as a consequence of his ruling will be decided at a later hearing.

Further issues remain to be argued, based on amendments the judge had earlier permitted to be made to the creditors' claims.

Both the creditors and the members are likely to challenge the judgment in the Court of Appeal and the expectation is that the Law Lords will be called upon to make a final ruling.

Last year, the Court of Appeals ruled that the ITC's members were not liable, in English law, for its debts.

The bank creditors were Australia and New Zealand Banking Group (claiming

(Amendment Act) gave the UK a defence to such a claim. The Act provided that no action should be brought unless the representation relied on was made in writing and signed by the defendant.

As the banks had not alleged fraudulent misrepresentation in their whole claim against the UK failed, the judge ruled.

He held that creditors could claim to recover damages from the members if they could prove that the members acted "recklessly" or in any other way "fraudulently," but not otherwise.

The members were not liable merely because of negligence — if negligence there had been in relation to the affairs, and in particular the likely solvency, of the ITC.

The basis for the members' liability was the commercial nature of the transactions: contracts made in the ordinary course of business on the London Metal Exchange or loans made by commercial banks.

"That commercial factor is both the strength and weakness of the (creditors') case. It enables them to defeat the claim for state immunity but it prevents them from establishing that any duty of care arose between the contracting parties or between themselves and the member states."

He said that the brokers had proved that the members states had taken part in the ITC's affairs to an extent which included giving to, and not withdrawing from, the ITC's buffer stock manager authority to enter into transactions.

The judge spoke of "the underlying commercial realities" which existed "even when states enter the market place or send their representatives on their behalf, and regardless of whether the trading was successful or not."

Tighter sugar balance forecast

By David Blackwell

THE SUPPLY and demand balance for world sugar this year could be markedly tighter than earlier indications suggested, according to the latest sugar market report from Gill & Duffus, the London trade house.

The company puts world output for 1988/89 at 107.42m tonnes, down from the 108.15m tonnes which it forecast in November. Consumption is put at 108.1m tonnes, up from the previous estimate of 107.85m tonnes.

The latest estimates leave a shortfall in production for the year of 640,000 tonnes. They are still above the revised 1987-88 figures of 104.2m tonnes for production and 106.1m

tonnes for consumption.

The most significant change in production has occurred in the Indian subcontinent and the Far East, which are now expected to produce over a quarter of the world's sugar this year, according to the report. But expected increases lower than might have been expected. Recent heavy purchases by Mexico have lifted prices, and they are expected to remain steady until the Soviet Union and China enter the market.

Consumption estimates have been raised to reflect greater demand expected in India and Asia.

The tight supply/demand balance will inevitably lead to a further drawdown in stocks,

says the report, "and prices have been relatively firm in anticipation of this development."

However, an abundance of supplies for nearby delivery have kept price movements lower than might have been expected. Recent heavy purchases by Mexico have lifted prices, and they are expected to remain steady until the Soviet Union and China enter the market.

"At this point we would expect a further influx of speculative funds as well as the pressure of the trade hedging to push the market up sharply, possibly even to the levels seen last year."

Malaysian rubber output up sharply

By Wong Sui Long in Kuala Lumpur

BUYED BY favourable prices, Malaysia's rubber producers last year recorded the biggest increase in rubber output registered during the past 12 years.

Figures published by the country's statistics department yesterday showed that Malaysian natural rubber production during 1988 was 79,343 tonnes, or 5 per cent, higher than in 1987 at a record 1,653 tonnes. Output had been stagnant at around 1,5m tonnes a year throughout the early 1980s.

The average price for top grade rubber sheets — specifically RSS No. 1, the hedging grade — rose by about 25 per cent last year to 310 Malaysian cents (64p) a kilogram.

Prices would have been much higher were it not for the substantial sales made by the International Natural Rubber Organisation (Inro) buffer stock manager, who is now believed to have less than 10,000 tonnes at his disposal.

Despite the record production, Malaysian rubber exports for last year were only marginally higher, at 1,51m tonnes, than in 1987. So stocks at the end of the marketing year were valued at about 5.15m ringgit (Malaysian dollars), an increase of some 1.23m ringgit.

Major buyers were Singapore (205,000 tonnes), South Korea (167,000 tonnes), the US (135,000 tonnes), China (112,000 tonnes), Japan (95,000 tonnes) and West Germany (95,000 tonnes).

The figures show that the Far East has now overtaken the industrialised countries of the West as the major market for Malaysian natural rubber, a trend that is expected to continue.

Malaysian local consumption of natural rubber rose by 25 per cent to 103,000 tonnes last year, reflecting the great increase in production of examination gloves and condoms because of the AIDS disease, and the recovery in the local tyre industry.

The Malaysian Ministry of Primary Industries is forecasting firm rubber prices for the current year, with world consumption expected to exceed supply by about 100,000 tonnes, and the expected exhaustion of Inro rubber stocks.

Since January 16, the Inro reference price has been above the "must sell" level of 242 Malaysian/Singapore cents a kilogram, at which level the organisation's buffer stock manager is required to operate as a net seller in order to keep prices from rising too sharply.

Inro reported that last year prices fell 40 on mostly trade selling. Speculative selling sank the coffee market. The grains all had a slow day to begin the week. Prices closed almost unchanged in most of the markets. In the metals, follow through buying from Friday helped cattle prices remain strong. Live hogs and pork bellies were also higher following the strong tone in the cattle. Cotton futures advanced on good buying from both trade and commission houses. Energy futures were slow despite the expansion of the Maro contract. Many traders are awaiting the outcome of a non-spec meeting taking place Tuesday.

Antwerp polishes up diamond sales

By Tim Dickson in Brussels

THE DIAMOND High Council of Antwerp — umbrella organisation for the Belgian diamond business — will announce later this week that its traders enjoyed a sparkling year in 1988 thanks to a 26 per cent increase in turnover to BEF 410bn (£26bn).

A breakdown of the figures to be formally presented in Antwerp tomorrow shows that total imports (BEF 231.9bn) slightly exceeded total exports (BEF 229.6bn) over the period — a factor which "indicates a degree of stockpiling caused by the slowing down of sales," according to one council official.

Among other highlights imports of polished goods rose by 28 per cent to almost BEF 80bn with India now the leading supplier, representing 19 per cent of Belgium's total by value, just piped by the Soviet Union (previously the largest and with 16 per cent this time), and Israel in third place (with 14 per cent).

Trade in rough diamonds — where Antwerp is the major centre after the Central Selling Organisation (De Beers) — also prospered in 1988 with imports

totalling 93m carats, almost equivalent to estimated world annual production, and the major outside suppliers Zaire and Liberia overshadowed by a huge jump in imports of Australian rough stones from 1.5m in 1987 to 5m carats.

Diamond activities in Antwerp are five centuries old, being rooted in the city's open attitude to religion which attracted many Jewish dealers made unwelcome elsewhere, its geographical position as a major European port, and the renowned skills of its workforce which have helped to make "Cut in Antwerp" synonymous with quality worldwide.

The sector contributes around 7 per cent of Belgium's total exports (up from 6 per cent in 1987), comprises around 2,000 individual and often highly individualistic companies, many of whom are crammed into a square kilometre of the centre of the city, and employs about 30,000 people (of whom less than 6,200 now work in the cutting and polishing industry).

Unlike Amsterdam, which is

associated with diamonds in the minds of the buying public, social security burden, and permission for greater flexibility in shifts to introduce 24-hour working. What will emerge from these negotiations remains to be seen, given that special pleading in other sectors such as textiles has not been wholly successful and given mixed political attitudes to the diamond industry in the wake of a much publicised (if unrepresentative) scandal.

"People here hardly ever sell to a tourist, though we are trying to change this," explains a Diamond Council official. "If you walk round the diamond area of the city at a weekend you will notice that it is largely dead."

Competition and strong promotional activity from the Netherlands' most famous city to the North is therefore of little concern, not least since traders point out a shade smugly that most of the goods sold there are probably of Antwerp origin. More worrying is the state of the Belgian manufacturing (cutting and polishing) industry which by contrast with the good times being enjoyed by the trade continues to adjust to the lower labour costs of Far East nations, and to move to live with state subsidies provided by the likes of the Israeli Government.

Discussions are under way with the Belgian authorities for a package of support,

including help with research, a possible lightening of the social security burden, and permission for greater flexibility in shifts to introduce 24-hour working. What will emerge from these negotiations remains to be seen, given that special pleading in other sectors such as textiles has not been wholly successful and given mixed political attitudes to the diamond industry in the wake of a much publicised (if unrepresentative) scandal.

There is some cause for hope, however, that the shake out in the industry may be past its peak, that employment may stabilise at the present level of around 6,200 (compared with 20,000 to 15 years ago), and that the application of new technologies encouraged by the Diamond High Council will pay off.

"We may be worried but we are not pessimistic," says one industry representative. "We are convinced, however, that with our training, structure, and craftsmanship — and the additional measures taken in the diamond plan — we can remain competitive."

PNG to alter distribution of mine royalties

By Chris Sherwell in Sydney

THE PAPUA New Guinea Government is planning to alter the way it distributes the royalties and export proceeds it receives from local mining projects, in a bid to head off resistance to further developments.

The move follows violent protests and sabotage by traditional landowners in support of increased compensation from the copper and gold mine on Bougainville island, operated by CRA, the Australian resources group.

It also comes as the government considers approving the vast Porgera gold project in the Highlands, involving MIM Holdings, Renison Goldfields and Placer Pacific.

Analysts suggest Amax does not want molybdenum to move above \$4 a lb because that would encourage other companies to bring mothballed capacity back into operation.

According to reports from Port Moresby yesterday, the new scheme will quadruple landowners' share of royalties, from five per cent to 20 per cent of the total, and bring a drop in the 85 per cent share currently going to the country's provincial governments.

As compensation, it was said that the provincial governments would receive one per cent of the total export value of minerals, which come from mines in their area. The sum would be met from general revenue but covered by dividends from national government equity in the mines.

The change, announced by Mr Paul Pora, Finance Minister, is expected to apply both to existing and new projects.

Molybdenum rise ruled out

By Kenneth Gooding, Mining Correspondent

MR ALLEN Born, chairman and chief executive of Amax, the North American natural resources group, yesterday said his company was ready to boost substantially its output of molybdenum rather than see prices go too high.

Amax could bring back into production an annual 20m lbs of molybdenum within six weeks, he pointed out. Last year the group produced about 30m lbs but it has annual capacity of 65m to 70m lbs.

Total non-communist world consumption of the metal used mainly in alloy and stainless steels, is widely expected to reach about 190m lbs this year.

"No-one has been hanging on our door asking for extra moly," Mr Born added.

One of Amax's main rivals, Cyprus Minerals, recently raised its prices for technical grade molybdenum oxide from \$3.60 a lb in drums to \$3.90. Cyprus said it made the move because demand for molybde-

nium had turned out to be stronger than it expected.

Mr Born, in London to meet institutional investors, said his company was ready to boost substantially its output of molybdenum rather than see prices go too high.

Amax had no present intention of following Cypruss' lead and increasing its molybdenum prices, he added.

Mr Born said the cash operating cost of Amax's primary molybdenum production was below \$2 a lb following the restructuring of the business at a cost of \$35m in 1987.

He reported that last year Amax generated \$40m of cash flow from molybdenum and a pre-tax profit of \$15m.

The 1982-87 collapse in molybdenum prices threatened the very existence of Amax, then the biggest primary molybdenum producer, accord-

WEEKLY METALS PRICES

All prices as supplied by Metal Bulletin (last week's prices in brackets)

COBALT: European free market, 99.5 per cent, \$ per lb, in warehouse, 7.90-8.50 (7.45-7.55).

MERCURY: European free market, min. 99.5 per cent, \$ per lb, 76 lb flask, in warehouse, 280-2140 (same).

BERMUTH: European free market, min. 99.9 per cent, \$ per lb, tonne lots in warehouse, 280-250 (same).

MOLYBDENUM: European free market, min. 99.5 per cent, \$ per lb, in warehouse, ingots, 3.50-4.00 (same).

URANIUM: Mexican exchange value, \$ per lb, in warehouse, 3.90-4.00 (same).

SELENIUM: European free market, min. 99.5 per cent, \$ per lb, in warehouse, 7.90-8.50 (7.45-7.55).

TUNGSTEN ORE: European free market, standard min. 80 per cent, \$ per tonne unit (10 kg) WC, min. 99.9 per cent, 30.10-31.10 (10.90-11.25).

VANADIUM: European free market, min. 99.9 per cent, \$ per lb, in warehouse, 10.50-11.00 (10.90-11.25).

URANIUM: Mexican exchange value, \$ per lb, in warehouse, 11.60 (same).

WEEKLY METALS PRICES

Copper 25,000 lbs; cent/lbs

Closes Previous High/Low

Feb 137.00 128.70 137.00 135.00

Mar 134.50 126.20 134.50 125.50

Apr 131.10 122.80 131.50 125.50

May 128.00 116.20 128.00 121.50

Jun 125.50 117.00 125.50 121.50

Jul 123.00 117.00 123.00 118.50

Sep 115.00 111.70 115.00 113.00

Dec 111.50 108.00 112.50 108.00

CRUDE OIL (Light) 42,000 US gals; barrel

Closes Previous High/Low

Mar 18.70

LONDON STOCK EXCHANGE

Setback for equities in late dealings

THE UK equity market fell victim to its own nervousness in late dealings yesterday. A sudden downswing in the stock futures market quickly overflowed into the underlying blue chips share sectors where early gains were replaced by losses in the face of some delivered sellers.

The downturn, which came only in the final hour of trading, coincided with a sharp fall in sterling, which cast a cloud over prospects for a reduction in domestic rates. However, the London equity market had little time to respond either to currency developments or to early reports of the address to the US Senate Banking Com-

Account Settlement Dates		
Feb 13	Feb 27	MAR 12
Options Expiry:		
Feb 23	Mar 9	MAR 20
Last Settlement:		
Feb 24	Mar 10	MAR 21
Options:		
Mar 2	Mar 20	APR 10
These deadlines may take place from 10.00 am New Zealand days earlier		

mitted by Dr Alan Greenspan, the head of the Federal Reserve. It was the upset in sterling, which cast a cloud over prospects for a reduction in domestic rates. However, the London equity market had little time to respond either to currency developments or to early reports of the address to the US Senate Banking Com-

pany specialists that London would be challenged when Wall Street returned to business after Presidents' Day to face Dr Greenspan's comments on the progress of the US economy.

The market's initial advance was encouraged by a favourable response to trading results from National Westminster Bank and particularly to its bonus share issue. At best, equities showed a gain of more than 10 FT-SE points before losing confidence as the time for Wall Street's opening drew near.

However, the Footsie was still in plus territory in late afternoon when it was under-

mined by weakness in the futures sector. By the end of the session, the FT-SE Index was a net 4.6 off at 2061.0, with the suddenness of the 15 point reversal displaying the nervousness beneath the surface.

At best, the index touched 2076.3, inside the area identified by Mr Robin Aspinall of Schroder Securities as a "most likely" stopping point for the current rally.

The major institutions appeared to seem trouble yesterday. During the early part of the session, the big funds were taking up stock when offered, though they backed away when stock was offered during the downturn, according to one

leading trading house. Pharmaceuticals, established indicators of the mood of the international funds, had a mixed day, with Glaxo unseated ahead of the trading statement expected in mid-March, with results due tomorrow, continued to slip lower.

Speculative stocks were more subdued yesterday. However, Consolidated Gold Fields continued to climb above the new terms from Minoro, with turnover higher as New York joined in the renewed excitement. The UK market is confidently waiting for the Gold Fields defence document, which is expected to tease out a higher offer from Minoro.

NatWest bonus pleases

Any lingering nervousness about the preliminary profits from the big-four clearing banks was initially dispelled by results from Natwest. These came out at £1.407m, and at the top end of market estimates, which ranged up to £1.407m, and were some 15 per cent higher than the pre-provision figure of £1.22bn for last year.

Dealers and analysts were further pleased by the proposed one-for-one scrip issue - a real bonus when allied to the final dividend which was better than any forecasts I knew of," said one analyst.

Natwest shares reflected the market's appreciative response to the figures, edging up to 625p at the day's best level. They subsequently fell back with the rest of the market and closed a shade easier at 617.5p. Turnover was well ahead of normal levels and expanded to 6m by the close.

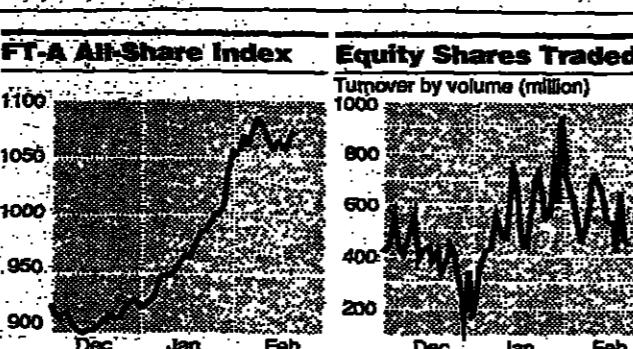
The late decline in the shares was attributed by dealers to the uncertain trend on Wall Street when that market opened and to a flurry of switching trades into the other leading banks, especially Lloyds, which are due to report figures over the next few days.

Local surprise

Shares in Local London soared in early trading after fellow property group Priest Marians unexpectedly launched a 550p-cash-and-share offer. To back the bid, which values Local London at £111m, brokers James Capel went into the market for Marians and bought 3.6m Local London shares at 550p cash before 10.30am, leaving Marians with 20 per cent of its target.

In tandem with Brent Walker's 29.8 per cent stake in the leisure group has pledged its support - Marians should succeed with its bid, said dealers. Marians made its offer on condition that Local London drop its own bid for leisure concern Marina Developments (down 5 at 485p), but one senior property analyst regards this condition as unimportant because between them Marians and Brent Walker have enough voting power to thwart the move for Marina.

While the performance of Local London shares was to be expected - they closed 47p better at 561p on turnover of 7m - the market was surprised by how well the Priest Marians

**Ferranti breakout**

Defence and electronics group Ferranti topped the turnover league in the electronics sector with 11m shares changing hands as the stock rose 6 to 113p, breaking through a significant chart point at 110p, according to dealers.

Broker Henderson Crosthwaite was a large buyer of the shares behind a strong recommendation from Mr Brian Newman, head of the newly-installed electronics team at Hendersons.

Hendersons say the shares are undervalued on the basis that a stake in Ferranti's CT2 licence, acquired by Cable & Wireless when it took over Telephone Rentals, is being auctioned off and could well be bought by a big US group such as AT & T. The broker also says Ferranti could attract the predatory attention mentioned by Lord Weinstock, GEC's managing director, recently.

And, according to Mr Newman, winning the Eurofighter radar contract, which he says is increasingly likely, will increase the chances of a tie up with one of the top European or US electronics group.

Welcome lost 11 to 472p amid some talk of troubles with Retrovir, the anti-Aids drug - a press report of a counterfeit version of the drug on sale in the Far East compounded recent brokers' downgradings of the drug's sales forecasts. Retrovir's sales performance is difficult to predict, said one analyst. Next year's sales forecasts for the drug vary from £150m to more than £200m.

ICI dropped 13 to 118p in

spite of moderate dollar strength, ahead of tomorrow's full year results, and Fisons ended 7 down at 232p on profit-taking.

General Accident were once again a casualty in a generally depressed insurance sector as widespread adverse comment on the NZI saga in the financial press triggered persistent selling to leave the shares down 27 at 95p; turnover was 1.5m.

Costain were the pick of the building and construction arena with the shares spurring a further 7 to 385p amid continuing speculation of possible predatory moves against the group. Trafalgar House currently has an 8.4 per cent stake in Costain and recent market chatter has suggested this could have been sold. But dealers said this was most unlikely. "They (Costain) are back in vogue and there is not a seller in the world at the moment. There is a stock shortage and the shares look cheap. Everyone is looking to buy them, we've been bid for size by just about everybody."

Yorkshire Chemicals jumped 21 to 316p after revealing preliminary figures well in excess of the most optimistic forecasts.

Retailers continued to attract buyers in the wake of some bullish comment from analysts at Citicorp Scrimgeour Vickers and Hoare Govett on Monday.

Talk of stakebuilding initially gave Delgety a boost, but the shares slipped back to close 2 easier at 352p on turnover of 2.2m shares. One dealer said there was a good buyer of the stock on the inter-dealer market screens at 351.5p and 353p. Selected manufacturers staged a modest recovery in the face of the current food scare.

Wartime Securities moved in early to buy Chamberlain Phillips stock on behalf of Bowater Industries, which launched a 220p-a-share bid for Chamberlain in the morning. Some 5.5m shares changed hands in the wake of the offer and after touching 230p at one point the shares settled back to 215p, 15 higher on the day. About half the turnover went to Bowater, which shed 9 to 205p.

French investors were again reported to have bought Eurotunnel, which jumped a further 24 to 316p. Suter was marked up during the morning session and resisted the afternoon's general market weakness to close 8 higher at 207p. "It's not expensive on fundamentals and this is not speculative buying," said one dealer.

A profits downgrading of Pilkington from James Capel lopped 8 off the shares leaving them at 241p. Capel blamed "peripheral difficulties," such as slow demand for loft insulation in the warm winter. It cut the full year forecast to 220m.

"having previously been at the high end of market expectations. The shares remain a strong hold," Capel added.

Stanley Leisure shares closed 250p before rallying well to close a net 7 off at 245p after the complicated deal with Brent Walker whereby the former will acquire five casinos from Brent Walker for some £25m, financed mostly via a 225p rights issue at 230p a share.

Mr Roy Owens, leisure analyst at Kitcat & Aitken, described the deal as "a good strategic move for Stanley in an industry where opportunities are very limited. They're an excellent investment with well above average growth prospects." Brent Walker jumped 10 to 347p.

Spice, the USM-listed distributor of motor parts and accessories, reacted after news of fund raising proposals. A £3m rights issue is planned and certain shareholders, including Mr Gordon Spice, the company's chairman, have renounced their rights entitlement which will be taken up by the partnership of Blake, Birchall and Fleming. Mr Richard Fleming will shortly join the board as managing director. The shares ended 7 down at 71p.

Selected Agencies began to appear in front of trading announcements and on recommendations from broking houses.

Citicorp Scrimgeour Vickers and BZW both favour Howard-Sparks, out-standing with a rise of 10 to 388p. "The strong organic growth expected in 1988 has been enhanced by good new business gains already this year," said the Citicorp duo of Ms Rebecca Munns and Mr Chris Akers. The company is

due to report annual results on March 15.

WCBS, with interim figures due on March 8, showed response to advice that the "positive news flow should underpin further recovery in the share price," rising 5 to 253p. Michael Peters greeted more than doubled mid-term profits with a jump of 9 to 124p.

Investors hoping for Norton Opac to receive a bid from Bowater were disappointed by the latter's bid for Chamberlain Phillips. Following a meeting with Bowater, several analysts decided that the bid premium in the Norton price was too high and their subsequent take-over bids were cut. Norton shares 8 lower to 184p.

Reed International became uncertain when a seller went round the market, causing dis-

FINANCIAL TIMES STOCK INDICES

	Feb.	Feb.	Feb.	Feb.	Feb.	Year	1988/89	Low	High	Since Compilation
	21	20	19	18	15	Ago	High	Low	High	Low
Government Secs	88.78	88.04	88.08	88.15	88.00	88.62	81.43	88.18	127.4	49.18
Fixed Interest	98.48	98.53	98.55	97.80	97.85	98.04	98.67	94.14	105.4	50.53
Ordinary	1696.0	1696.9	1678.1	1687.2	1677.4	1410.3	1714.7	1349.0	1928.2	48.4
Gold Mines	158.7	157.2	154.7	159.4	155.6	262.0	312.5	154.7	734.7	43.5

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Gilt Edged Sargains 99.5 92.0

Equity Bargains 207.5 171.8

Equity Value 219.1 228.1

S - Day average

Gilt Edged Sargains 98.7 99.0

Equity Bargains 190.3 197.6

Equity Value 2509.1 2619.7

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TRADING VOLUME IN MAJOR STOCKS

The following is based on trading volume for Alpha securities dealt through the SEAO system yesterday until 5 pm.										
	Value	Qtrly	Day's	Stock	Value	Qtrly	Day's	Stock	Value	Qtrly
ASA Group	1,929	149	149	General Motors	1,615	395	395	General Securities	1,215	41
ASTRA Group	979	252	252	Gen. Elec Field	1,120	145	145	Gen. Elec Gen.	177	21
BAC Group	1,029	250	250	Gen. Elec Gen.	1,029	219	219	Gen. Elec Gen.	247	27
BAA Group	1,245	369	369	Gen. Elec Gen.	1,245	352	352	Gen. Elec Gen.	2,100	15
BBC Group	1,057	250	250	Gen. Elec Gen.	1,057	245	245	Gen. Elec Gen.	1,200	15
BCE Group	1,429	345	345	Gen. Elec Gen.	1,429	345	345	Gen. Elec Gen.	1,429	15
BCEI Group	1,005	245	245	Gen. Elec Gen.	1,005	245	245	Gen. Elec Gen.	1,005	15
BCEI Ltd	1,005	245	245	Gen. Elec Gen.	1,005	245	245	Gen. Elec Gen.	1,005	15
BCEI Plc	2,500	350	350	Gen. Elec Gen.	2,500	475	475	Gen. Elec Gen.	2,500	15
BCEI Plc	2,500	350	350	Gen. Elec Gen.	2,500	475	475	Gen. Elec Gen.	2,500	15

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- Current Unit Trust Prices are available on FT Cityline. To obtain your free Unit Trust Code Booklet ring the FT Cityline help desk on 01-825-2122

AUTHORISED UNIT TRUSTS

Left	Cent.	Bid	Offer + or -	Yield
Charge	Price	Price	Price -	Cost

AUTHORISED UNIT TRUSTS

	Unit	Cust.	Bld	Offer + or Yield	Unit	Cust.	Bld	Offer + or Yield
	Cust.	Price	Price			Cust.	Price	Price
Abbey Unit Tst Mngrs (1000H)								
80 Holborn Viaduct, London EC1N 2HT		0345 727373						
High Income								
American Income	\$	61.45	58	48.37 - 49.21				
Gilt & Fixed Int.	\$	61.15	18	115.18 - 122.26				
Hedge Inv Corp	\$	61.26	20	160.16 - 163.40				
Worldwide Bond	\$	60.84	90	124.19 - 191.00	-0.74			
Capital Growth								
American Growth	\$	57.87	80	150.90 - 170.70	+1.4			
Asian Pacific	\$	61.31	81	51.57 - 53.63	+1.1			
Assets & Earnings	\$	62.54	20	145.20 - 155.00	+1.1			
1992 Enterprise	\$	61.43	54	52.45 - 57.45	+0.3			
European Capital	\$	60.76	76	76.37 - 81.08	-0.19			
General								
Japan								
Masterset	\$	78.01	78	91.51 - 92.00	-0.26			
UK Growth Acc	\$	61.93	48	130.20 - 137.00	+0.2			
UK Growth Div	\$	61.30	20	104.00 - 107.00	+0.2			
Income & Growth	\$	62.56	59	39.00 - 39.07	+0.1			
Ethical								
	\$	61.47	55	43.73	51.06	+0.13	2.41	
Abertax Management Ltd (1000H)								
10 Queens Terrace, Abingdon OX1 9JQ		0800 233580						
American	\$	52.93	42	42.43	-0.5			
Australian	\$	21.81	21	21.81				
European	\$	52.19	19	52.19				
Extra Income	\$	52.35	20	52.35	-0.41			
Fund & Inv Tst								
Global Fund	\$	175.9	4	187.1	-0.1			
Gilt & Fixed Inv	\$	52.03	25	23.24	-0.01			
Global Income	\$	39.33	39	31.41	-0.1			
Income & Growth	\$	71.67	71	81.87	-0.19			
Japan								
Masterset	\$	78.01	78	91.51	-0.26			
UK Growth Acc	\$	61.93	48	130.20	+0.2			
UK Growth Div	\$	61.30	20	104.00	+0.2			
Income & Growth	\$	62.56	59	39.00	+0.1			
Ethical								
	\$	61.47	55	43.73	51.06	+0.13	2.41	
Abertax Management Ltd (1000H)								
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American	\$	52.93	42	42.43	-0.5			
Australian	\$	21.81	21	21.81				
European	\$	52.19	19	52.19				
Extra Income	\$	52.35	20	52.35	-0.41			
Fund & Inv Tst								
Global Fund	\$	175.9	4	187.1	-0.1			
Gilt & Fixed Inv	\$	52.03	25	23.24	-0.01			
Global Income	\$	39.33	39	31.41	-0.1			
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Ethical								
	\$	61.47	55	43.73	51.06	+0.13	2.41	
Abertax Management Ltd (1000H)								
1 White Hart Yd, London Bridge SE1 1HX		01-407 5966						
Electrical								
	\$	51.96	46	38	100.21	-0.05		
Acorn Unit Trust Managers Ltd (1100)								
1 White Hart Yd, London Bridge SE1 1HX		01-407 5966						
Electrical								
	\$	51.96	46	38	100.21	-0.05		
Aegis Unit Tst Mngmt Ltd (1400F)								
94 Whitefriars Rd, Brntf, BS9 1DX		0272 237593						
European Growth	\$	127.17	27	127.42	-0.05			
Exempt								
	\$	127.17	27	127.42	-0.05			
Aegon Unit Tst								
Capital Acc	\$	127.17	27	127.42	-0.05			
Capital United	\$	242.8	242	202.0	-0.2			
Fm & Prop								
	\$	123.05	22	123.05	-0.01			
Aegon Unit Tst								
Capital Acc	\$	123.05	22	123.05	-0.01			
Capital United	\$	242.8	242	202.0	-0.2			
Fm & Prop								
	\$	123.05	22	123.05	-0.01			
Aegon Unit Tst								
Capital Acc	\$	123.05	22	123.05	-0.01			
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Aegon Unit Tst								
Capital Acc	\$	123.05	22	123.05	-0.01			
Capital United	\$	242.8	242	202.0	-0.2			
Fm & Prop								
	\$	123.05	22	123.05	-0.01			
Aegon Unit Tst								
Capital Acc	\$	123.05	22	123.05	-0.01			
Capital United	\$	242.8	242	202.0	-0.2			
Fm & Prop								
	\$	123.05	22	123.05	-0.01			
Aegon Unit Tst								
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Capital United	\$	242.8	242	202.0	-0.2			
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Fm & Prop								
	\$	123.05	22	123.05	-0.01			
Aegon Unit Tst								
Capital Acc	\$	123.05	22	123.05	-0.01			

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GUIDE TO UNIT TRUST PRICING

commission, administration and other costs which have to be paid by the manager. These

marketing, administrative and other costs which have to be paid by new purchasers. These are included in the price when the customer buys units.

The price at which units may be sold.

between the offer and bid prices is determined by a formula laid down by the government. Passengers quote a much narrower spread. As a result, the bid price is often set well above the price which is called the cancellation price in the table. However the bid price might

The price range is shown in the following table. However, the true price range is the price in circumstances in which there is a large excess of sellers of units over

provide the fund manager's name is the time at which the unit trust's daily dealing prices are
another place is indicated by the symbol alongside the individual unit trust name. The

~~For 9 - 0001 to 1100 hours; 4 - 1101 to 1400 hours; 8 - 1401 to 1700 hours; 12 - 1701 to~~

that the managers will deal on a historic price basis. This means that investors can obtain a true picture of the value of the shares at any time during the day.

The prices shown are final, after deducting any fees or charges. The prices shown are final, after deducting any fees or charges. The prices shown are final, after deducting any fees or charges.

that prices are set on a forward basis so that investors can be given no definite price in case or sale being carried out. The prices appearing in the newspaper show the prices as

For more information on the FT Unit Trust Information pages.

1. *What is the relationship between the two main characters?*

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10. The following table shows the number of hours worked by each employee.

10. The following table shows the number of hours worked by each employee in a company.

10. The following table shows the number of hours worked by each employee in a company.

10. The following table gives the number of hours worked by each of the 100 workers.

10. The following table shows the number of hours worked by each employee in a company.

FT UNIT TRUST INFORMATION SERVICE

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ET UNIT TRUST INFORMATION SERVICE

- Current Unit Trust Prices are available on FT Cityline. To obtain your free Unit Trust Code Booklet ring the FT Cityline help desk on 01-825-2128.

FT UNIT TRUST INFORMATION SERVICE

LONDON SHARE SERVICE

BRITISH FUNDS								BRITISH FUNDS - Contd								AMERICANS							
1988/89	High	Low	Stock	Price	+ or -	Vield	1988/89	High	Low	Stock	Price	+ or -	Vield	1988/89	High	Low	Stock	Price	+ or -	B/H	Gross	Cr.	%
2.00	Stock	5	-	Int.	Red.		Stock	5	-	Int.	Red.		Stock	5	-	Int.	Red.		Cr.	Gross	Cr.	%	
"Shorts" (Lives up to Five Years)							4514	43	43	Cents 4pc	45	-	8.89	1554	1554	1554	Abbott Laboratories	2914	224	\$1.20	2.5		
1011	9821	Treas 9 1/2 pc Sov 1989	994	+4	9.54	11.04	4045	37	37	Wm. L. Cates 3 1/2 pc	40	-	8.75	3118	3118	3118	American & W. Inc.	4520	340	302	2.7		
9814	9821	Treas 3pc 1989	985	-	3.64	9.23	2019	49	49	Conv. 3 1/2 pc 61 AM	692	-	5.04	1814	111	111	Am. Express 60c	1413	42	40	1.5		
1021	9812	Treas 10 1/2 pc 1989	971	+5	10.57	12.41	2921	26	26	Cents 2 1/2 pc	26	-	7.87	1049	1049	1049	Am. Medical Inst. SL	1744	14	84	2.6		
1022	9812	Exch 10pc 1989	971	-	10.16	12.43	2851	26	26	Treas. 2 1/2 pc	28	-	8.71	1824	1374	1374	American T. & T. SL	1713	4	51.20	4.0		
10310	9812	Exch 12pc 1989	971	-	11.03	12.40	2851	26	26	Treas. 2 1/2 pc	28	-	8.73	302	22	22	Americorp SL	2914	25	\$2.92	5.5		
9711	9812	Exch 12pc 1989	971	-	11.03	12.40	4514	43	43	Cents 4pc	45	-	8.89	1554	1554	1554	Americorp SL	1914	4	720	2.0		
9712	9812	Exch 10pc 1989	971	-	10.30	10.94	7045	37	37	Wm. L. Cates 3 1/2 pc	70	-	8.75	3118	3118	3118	Am. Express 60c	111	22	60	2.7		
10411	9812	Exch 13pc 1990	1011	-	12.82	11.53	2019	37	37	Conv. 3 1/2 pc 61 AM	692	-	5.04	1814	111	111	Am. Express 60c	1744	14	84	2.6		
10412	9812	Exch 13pc 1990	995	-	11.05	11.28	2019	37	37	Conv. 3 1/2 pc 61 AM	692	-	5.04	1814	111	111	Am. Express 60c	1744	14	84	2.6		
10713	1001	Exch 12pc 1990	1001	-	12.38	11.55	1045	37	37	Treas. 2 1/2 pc	28	-	8.73	1824	1374	1374	American T. & T. SL	1713	4	51.20	4.0		
9314	9010	Treas. 12pc 1990	1001	-	12.38	11.55	1045	37	37	Treas. 2 1/2 pc	28	-	8.73	1824	1374	1374	Americorp SL	1713	4	51.20	4.0		
9951	9515	Treas 8 1/2pc 1989	9515	-	8.54	11.08	9515	15	15	Treas. 8 1/2pc 1989	9515	-	8.54	11.08	9515	15	15	Am. Somer. Inc.	1914	4	51.12	3.9	
10212	9515	Treas. 8pc 1989	9515	-	8.14	9.38	1261	1171	1171	Treas. 2pc IL "8084.61"	1261	-	2.91	2314	111	111	Am. Somer. Inc.	1674	54	54	1.8		
10313	9515	Treas 10pc 1990	9515	-	10.19	11.24	1068	995	995	Do. 2pc 92+97.81	1068	-	2.45	3118	111	111	Am. Somer. Inc.	1674	54	54	1.8		
9114	9114	Exch 2pc 1990	9114	-	2.78	9.00	9114	92	92	Do. 2pc 94 (102.49)	9114	-	2.84	3118	111	111	Am. Somer. Inc.	1674	54	54	1.8		
10715	1001	Exch 11pc 1991	1011	-	11.63	11.09	1445	1275	1275	Do. 2pc 96(57.97)	1445	-	3.03	3118	111	111	Am. Somer. Inc.	1674	54	54	1.8		
9516	9512	Funding 8pc 87-91.11	9114	-	6.27	10.22	1231	1037	1037	Do. 2pc 01/18.31	1231	-	3.27	1534	1914	1914	Am. Somer. Inc.	1674	54	54	1.8		
9017	9017	Treas. 3pc 1991	9114	-	3.39	8.89	1213	1037	1037	Do. 2pc 03/18.60	1213	-	3.31	1534	1914	1914	Am. Somer. Inc.	1674	54	54	1.8		
10518	9713	Treas 10pc 91.11	9951	-	10.04	10.22	1241	1021	1021	Do. 2pc 06/16.91	1241	-	3.37	1534	1914	1914	Am. Somer. Inc.	1674	54	54	1.8		
10719	9812	Exch 11pc 1991	1001	-	10.96	10.82	1167	1021	1021	Do. 2pc 08/18.80	1167	-	3.39	2014	111	111	Cal Fed Fin. SL	1334	4	840	2.5		
9812	9812	Treas. 8pc 1991	9114	-	8.57	10.79	1213	991	991	Do. 2pc 11/17.61	1213	-	3.38	3514	3514	3514	Cal Fed Fin. SL	1334	4	840	2.5		
11312	1021	Treas 12pc 1992	1011	-	12.18	10.54	1011	9821	9821	Do. 2pc 12/18.80	1011	-	3.32	3514	3514	3514	Cal Fed Fin. SL	1334	4	840	2.5		
10413	9611	Treas 10pc 1992	9812	-	10.16	10.62	1045	9812	9812	Do. 2pc 01/20.80	1045	-	3.33	1474	111	111	Cal Fed Fin. SL	1334	4	840	2.5		
9814	9812	Treas 10pc 1992	9812	-	8.59	10.62	1074	9812	9812	Do. 2pc 03/20.81	1074	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
8615	8615	Treas 12pc 1992	9812	-	10.53	10.59	9017	8730	8730	Do. 2pc 04/24.97.71	9017	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
12116	1021	Exch 12pc 1992	1045	-	11.04	10.60	1045	9812	9812	Do. 2pc 06/24.97.81	1045	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
11717	1061	Exch 13pc 1992	1001	-	12.43	10.53	1001	9812	9812	Do. 2pc 08/24.97.81	1001	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
9718	9111	Treas 8pc 1993	93	-	8.57	10.43	9515	9111	9111	Do. 2pc 10/24.97.81	9515	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
10519	9611	Treas 10pc 1993	9812	-	10.11	10.32	9812	9111	9111	Do. 2pc 12/24.97.81	9812	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
11510	10519	Treas 12pc 1993	10718	-	11.63	10.35	10718	9111	9111	Do. 2pc 04/24.97.81	10718	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
12111	1101	Treas 13pc 1993	11215	-	12.23	10.34	11215	9111	9111	Do. 2pc 06/24.97.81	11215	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
10112	1061	Exch 13pc 1993	1045	-	11.04	10.60	1045	9812	9812	Do. 2pc 08/24.97.81	1045	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
9713	9111	Treas 8pc 1993	93	-	8.57	10.43	9515	9111	9111	Do. 2pc 10/24.97.81	9515	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
10514	9611	Treas 10pc 1993	9812	-	10.11	10.32	9812	9111	9111	Do. 2pc 12/24.97.81	9812	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
11515	10519	Treas 12pc 1993	10718	-	11.63	10.35	10718	9111	9111	Do. 2pc 04/24.97.81	10718	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
12116	1101	Treas 13pc 1993	11215	-	12.23	10.34	11215	9111	9111	Do. 2pc 06/24.97.81	11215	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
10117	1061	Exch 13pc 1993	1045	-	11.04	10.60	1045	9812	9812	Do. 2pc 08/24.97.81	1045	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
9718	9111	Treas 8pc 1994	93	-	8.57	10.43	9515	9111	9111	Do. 2pc 10/24.97.81	9515	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
10519	9611	Treas 10pc 1994	9812	-	10.11	10.32	9812	9111	9111	Do. 2pc 12/24.97.81	9812	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
11520	10519	Treas 12pc 1994	10718	-	11.63	10.35	10718	9111	9111	Do. 2pc 04/24.97.81	10718	-	3.27	3414	111	111	Chrysler M6	1514	4	51.00	3.6		
12121	1101	Treas 13pc 1994	11215	-	12.23	10.34	11215	9111															

LONDON SHARE SERVICE

CANADIANS

BUILDING, TIMBER, ROADS

Contd

	Price	No. or Div.	Curr.	Ytd.
1988/89 Low	Stock			
3072	WABM Gold Corp.	144	-1	7.3
32	Walton Energy Corp.	13	-1	5.8
148	Ward Bros. Building Co.	17	-1	1.5
108	Warren Group Inc.	24	-1	1.5
279	Warrenco Ltd.	14	-2	1.5
129	Wasco America Inc.	186	-1	1.5
141	Wat. Montreal I.	115	-1	2.5
769	Wat. Montréal II.	70	-1	2.5
141	Watson Bros. Inc.	12	-1	2.5
728	Watson Valley	57	-1	2.5
141	WBracon	13	-1	2.5
286	Webwater Res.	17	-1	2.5
121	Weber Bros. Inc.	15	-1	2.5
841	West Can. Pacific Corp.	10	-1	2.5
41	West. De Ede Edo.	38	-1	2.5
493	Weston Corp.	42	-1	2.5
313	Westro Corp.	22	-1	2.5
886	West TVA Min.	338	-5	2.5
314	Westway Min. Sys. I.	25	-1	2.5
141	Westway Min. Sys. II.	11	-1	2.5
879	Westway Bay Mine	87	-12	50.57
639	Westway CO Corp.	24	-1	2.5
404	Westway Corp.	12	-1	2.5
Euro-Asia				
386	Westmin Resources Inc.	213	-2	2.5
22	Westmin Resources Inc.	202	-2	2.5
141	Whitmore Corp.	15	-1	2.5
391	Whinges Expl.	151	-1	2.5
24	Whitby Pacific Res.	25	-1	2.5
121	Whitwater Ltd.	11	-1	2.5
549	Whitwater Group	11	-1	2.5
28	Whitwater Min. Corp.	25	-1	2.5
203	Whitwater Oilfield	17	-1	2.5
141	Whitwater Oilfield S.	17	-1	2.5
718	Whitwater Mine	18	-1	2.5
126	Whitwater Mine	18	-1	2.5
207	Whitwater Expl.	18	-1	2.5
825	Whitwater Gold Corp.	47	-1	2.5
121	Whitwater Min.	11	-1	2.5
767	Whitwater	11	-1	2.5
142	Whitwater Min. Can. I.	11	-1	2.5
361	Whitwater Min. Can. II.	11	-1	2.5
141	Whitwater Min. Sys. I.	11	-1	2.5
141	Whitwater Min. Sys. II.	11	-1	2.5
229	Whitwater Min. Sys. III.	11	-1	2.5

BANKS, HP & LEASING

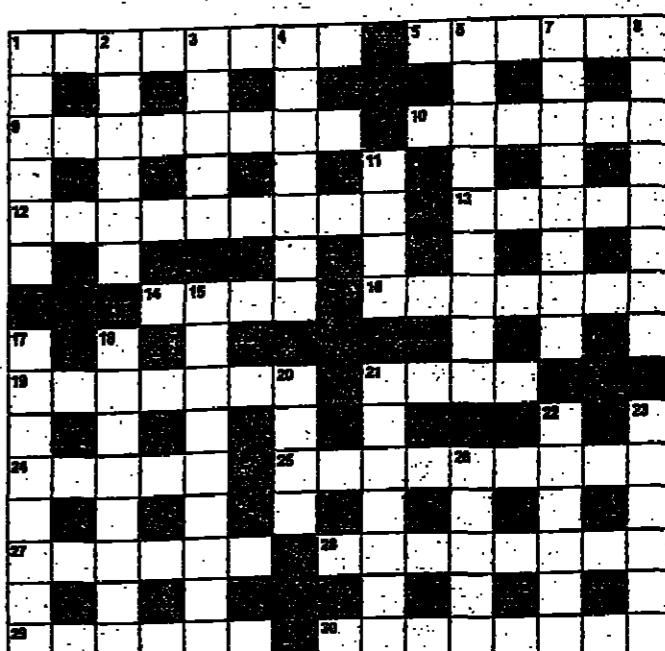
	Price	No. or Div.	Curr.	Ytd.
1988/89 Low	Stock			
276	124ANZ SAL.	244	-2	7.1
113	124ANZ FIN.	122	-1	1.9
58	58Antrim Irish. Inv.	75	-1	1.9
254	58Bank Ireland Inv. I.	100	-1	1.9
240	58Bank Ireland Inv. II.	100	-1	1.9
273	58Bank Ireland Inv. III.	100	-1	1.9
118	58Bank Leumi Ltd.	175	-1	1.9
105	58Bank Scotland	169	-1	1.9
11102	58Bank of Ire. Inv. I.	110	-1	1.9
405	58Barclays Inv. I.	150	-1	1.9
36	58Barclays Inv. II.	259	-1	1.9
77	58Barings Mort. Tr.	22	-1	1.9
304	58Barclays Alt. Inv.	380	-2	2.5
114	58Barclays Inv. D.	142	-1	2.5
122	58Barclays Inv. H.	142	-1	2.5
111	58Barclays Inv. K.	142	-1	2.5
111	58Barclays Inv. L.	142	-1	2.5
270	58Barclays Inv. M.	142	-1	2.5
270	58Barclays Inv. N.	142	-1	2.5
270	58Barclays Inv. O.	142	-1	2.5
270	58Barclays Inv. P.	142	-1	2.5
270	58Barclays Inv. Q.	142	-1	2.5
270	58Barclays Inv. R.	142	-1	2.5
270	58Barclays Inv. S.	142	-1	2.5
270	58Barclays Inv. T.	142	-1	2.5
270	58Barclays Inv. U.	142	-1	2.5
270	58Barclays Inv. V.	142	-1	2.5
270	58Barclays Inv. W.	142	-1	2.5
270	58Barclays Inv. X.	142	-1	2.5
270	58Barclays Inv. Y.	142	-1	2.5
270	58Barclays Inv. Z.	142	-1	2.5
270	58Barclays Inv. AA.	142	-1	2.5
270	58Barclays Inv. BB.	142	-1	2.5
270	58Barclays Inv. CC.	142	-1	2.5
270	58Barclays Inv. DD.	142	-1	2.5
270	58Barclays Inv. EE.	142	-1	2.5
270	58Barclays Inv. FF.	142	-1	2.5
270	58Barclays Inv. GG.	142	-1	2.5
270	58Barclays Inv. HH.	142	-1	2.5
270	58Barclays Inv. II.	142	-1	2.5
270	58Barclays Inv. III.	142	-1	2.5
270	58Barclays Inv. IV.	142	-1	2.5
270	58Barclays Inv. V.	142	-1	2.5
270	58Barclays Inv. VI.	142	-1	2.5
270	58Barclays Inv. VII.	142	-1	2.5
270	58Barclays Inv. VIII.	142	-1	2.5
270	58Barclays Inv. IX.	142	-1	2.5
270	58Barclays Inv. X.	142	-1	2.5
270	58Barclays Inv. XI.	142	-1	2.5
270	58Barclays Inv. XII.	142	-1	2.5
270	58Barclays Inv. XIII.	142	-1	2.5
270	58Barclays Inv. XIV.	142	-1	2.5
270	58Barclays Inv. XV.	142	-1	2.5
270	58Barclays Inv. XVI.	142	-1	2.5
270	58Barclays Inv. XVII.	142	-1	2.5
270	58Barclays Inv. XVIII.	142	-1	2.5
270	58Barclays Inv. XVII.	142	-1	2.5
270	58Barclays Inv. XX.	142	-1	2.5
270	58Barclays Inv. XXI.	142	-1	2.5
270	58Barclays Inv. XXII.	142	-1	2.5
270	58Barclays Inv. XXIII.	142	-1	2.5
270	58Barclays Inv. XXIV.	142	-1	2.5
270	58Barclays Inv. XXV.	142	-1	2.5
270	58Barclays Inv. XXVI.	142	-1	2.5
270	58Barclays Inv. XXVII.	142	-1	2.5
270	58Barclays Inv. XXVIII.	142	-1	2.5
270	58Barclays Inv. XXIX.	142	-1	2.5
270	58Barclays Inv. XXX.	142	-1	2.5
270	58Barclays Inv. XXXI.	142	-1	2.5
270	58Barclays Inv. XXXII.	142	-1	2.5
270	58Barclays Inv. XXXIII.	142	-1	2.5
270	58Barclays Inv. XXXIV.	142	-1	2.5
270	58Barclays Inv. XXXV.	142	-1	2.5
270	58Barclays Inv. XXXVI.	142	-1	2.5
270	58Barclays Inv. XXXVII.	142	-1	2.5
270	58Barclays Inv. XXXVIII.	142	-1	2.5
270	58Barclays Inv. XXXIX.	142	-1	2.5
270	58Barclays Inv. XXXX.	142	-1	2.5
270	58Barclays Inv. XXXI.	142	-1	2.5
270	58Barclays Inv. XXXII.	142	-1	2.5
270	58Barclays Inv. XXXIII.	142	-1	2.5
270	58Barclays Inv. XXXIV.	142	-1	2.5
270	58Barclays Inv. XXXV.	142	-1	2.5
270	58Barclays Inv. XXXVI.	142	-1	2.5
270	58Barclays Inv. XXXVII.	142	-1	2.5
270	58Barclays Inv. XXXVIII.	142	-1	2.5
270	58Barclays Inv. XXXIX.	142	-1	2.5
270	58Barclays Inv. XXXX.	142	-1	2.5
270	58Barclays Inv. XXXI.	142	-1	2.5
270	58Barclays Inv. XXXII.	142	-1	2.5
270	58Barclays Inv. XXXIII.	142	-1	2.5
270	58Barclays Inv. XXXIV.	142	-1	2.5
270	58Barclays Inv. XXXV.	142	-1	2.5
270	58Barclays Inv. XXXVI.	142	-1	2.5
270	58Barclays Inv. XXXVII.	142	-1	2.5
270	58Barclays Inv. XXXVIII.	142	-1	2.5
270	58Barclays Inv. XXXIX.	142	-1	2.5
270	58Barclays Inv. XXXX.	142	-1	2.5
270	58Barclays Inv. XXXI.	142	-1	2.5
270	58Barclays Inv. XXXII.	142	-1	2.5
270	58Barclays Inv. XXXIII.	142	-1	2.5
270	58Barclays Inv. XXXIV.	142	-1	2.5
270	58Barclays Inv. XXXV.	142	-1	2.5
270	58Barclays Inv. XXXVI.</td			

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FOREIGN EXCHANGES

Loss of confidence hits pound

STERLING BROKE through a key support level of DM3.2450 in currency markets yesterday and fell sharply to around DM3.2300 in the afternoon. A recent reduction in favourable interest rate differentials and concern about the rise in UK inflation has prompted many investors to switch out of sterling.

European and US interest rates have been moving higher just recently. Since the beginning of the year, the advantage enjoyed by Euro-sterling rates over Euro-Dmarks has narrowed to 5% per cent from 7% per cent. Over the same period, the differential against Euro-dollars has come down to 3% per cent from 3% per cent.

On this basis, investors are finding it less expensive to run short on sterling, and the recent poor performance of other high yielding currencies, such as the Australian dollar, has encouraged traders to take a fresh look at the attractions of sterling as a medium term investment.

Recent data suggesting a slowdown in UK consumer spending and economic growth are regarded as favourable by-products of measures taken to tackle the main issue, namely inflation. But so far, the latter has shown no sign of reversing its upward trend, and this has

undermined investor confidence in sterling.

The pound opened at DM3.2625 against the D-Mark, and edged up to around DM3.2550 at lunchtime. However, reports of several large selling orders pushed the pound sharply weaker to close at the day's low of DM3.2250, down from DM3.2500 on Monday.

Against the dollar, it fell to \$1.7505 from \$1.7635 and \$21.75 compared with \$22.00. Elsewhere, it finished at SFr1.7450 from SFr1.7625 and FFr10.9850 from FFr11.0750. On Bank of England figures, the pound's exchange rate index fell to 96.9, its lowest level this year, and down from 97.5 at the start and 97.7 on Monday.

The dollar lost ground against the D-Mark but was mostly firmer elsewhere. Sentiment was underpinned by comments made to Congress by Mr Alan Greenspan, chairman of the US Federal Reserve Board. Speaking at the Humphrey

Hawkins testimony, Mr Greenspan said that the Fed is more inclined to lean towards restraint rather than stimulus in the conduct of monetary policy. He added that the current rate of inflation is unacceptable and that capacity constraints highlight the dangers of upward pressure on prices.

However, much of the emphasis placed on fighting inflation has already been discounted by the market, and the dollar's improvement was relatively modest. Against the yen it rose to Y16.75 from Y16.45 and was higher in Swiss franc terms at SFr1.5685 from SFr1.5670. Elsewhere it slipped to FFr12.2750 from FFr12.3000. Its fall against the D-Mark was a result of the heavy switch out of sterling and into the West German unit. Against the latter, the dollar closed at DM1.8420 from DM1.8435. On Bank of England figures, the dollar's exchange rate index closed at 96.8 from 96.7 on Monday.

ACTION AND not mere words are looked for from the US Federal Reserve at present. Dealers would like it confirmed that the Fed has raised its target rate for Federal funds, or better still a rise in the US discount rate, rather than yesterday's comments from the Fed chairman about being inclined to act in the direction

of restraint.

In a general mood of disappointment at the lack of action from the US authorities

interest rates futures weakened on

Liffe yesterday. A decline in short sterling and long gilt

futures also followed concern

about a sudden weakening of the

pound

June is now by far the most

active month in short sterling futures. The June contract continues to weaken as doubts grow about the likelihood of a cut in UK bank base rates before delivery. Last night's close of 97.37 discounts a Libor rate of 12.63 per cent on delivery, compared with 97.46 and a final Libor rate of 12.54 per cent on Monday.

June is now by far the most

E IN NEW YORK

Feb.21	Latest	Previous Close
1.7500 - 1.7505	1.7745 - 1.7755	1.7500 - 1.7515
0.45 - 0.455	0.45 - 0.4705	0.45 - 0.455
1 month	1.7500 - 1.7515	1.7500 - 1.7515
12 months	3.78 - 3.805	3.75 - 3.805

Forward premiums and discounts apply to the US dollar

STERLING INDEX

Feb.21	Previous
8.30	9.75
9.00	9.75
10.00	9.75
11.00	9.75
12.00	9.75
2.00	9.75
3.00	9.75
4.00	9.75

Belgian rate is convertible francs. Financial rate 5.85-67.95. Six-month forward dollar 2.48-2.43 open 12 months 3.65-3.75cm

CURRENCY RATES

Feb.21	Bank of England Rate	Special Rate	European Central Bank Unit
Sterling	0.74900	0.62993	1.1287
U.S. Dollar	0.52275	0.52275	1.3740
Canadian Dollar	1.1111	1.1111	1.1111
Austrian Schilling	1.1111	1.1111	1.1111
Belgian Franc	7.75	7.6183	13.6960
Danish Krone	7.75	7.6183	13.6960
French Franc	7.75	7.6183	13.6960
Gold Guilder	2.31943	2.31943	2.31943
Italian Lira	1.1215	1.1215	1.1215
Swiss Franc	1.1215	1.1215	1.1215
Yen	1.1215	1.1215	1.1215
Austrian Franc	7.75	7.6183	13.6960
Spanish Peseta	7.75	7.6183	13.6960
Swedish Krona	7.75	7.6183	13.6960
Swiss Franc	7.75	7.6183	13.6960
Greek Drach.	2.07443	2.07443	2.07443
Irish Pound	2.07443	2.07443	2.07443
Italian Lira	1.1215	1.1215	1.1215
Swiss Franc	1.1215	1.1215	1.1215
Yen	1.1215	1.1215	1.1215
Asian Share	1.1215	1.1215	1.1215

All UK rates are for Feb.20

CURRENCY MOVEMENTS

Feb.21	Bank of England Rate	Morgan Guaranty Change %
Sterling	99.9	N/A
U.S. Dollar	6.50	-0.0003
Canadian Dollar	101.9	N/A
Austrian Schilling	103.7	N/A
Danish Krone	103.0	N/A
Deutsche Mark	112.2	N/A
French Franc	110.0	N/A
Gold Guilder	110.0	N/A
Italian Lira	110.0	N/A
Swiss Franc	98.7	-0.0003
Greek Drach.	20.75	-0.0001
Irish Pound	20.75	-0.0001
Italian Lira	110.0	N/A
Swiss Franc	98.7	-0.0001
Yen	151.8	N/A

More recent changes: average 1980-1982-100. Bank of England rate (base) Average 1982-1988 rates are for Feb.20.

OTHER CURRENCIES

Feb.21	£	\$
Argentina	31,540 - 31,950	18,1400 - 18,2500
Australia	2,1490 - 2,1520	1,2285 - 1,2295
Brazil	2,1490 - 2,1520	1,2285 - 1,2295
Finland	2,1490 - 2,1520	1,2285 - 1,2295
Greece	2,1490 - 2,1520	1,2285 - 1,2295
Iceland	1.25	1.25
Iran	1.25	1.25
Korea(Sud)	118.95 - 119.50	67.60 - 67.80
Korea(Nor)	118.95 - 119.50	67.60 - 67.80
Luxembourg	1.25	1.25
Malaysia	2,1490 - 2,1520	1,2285 - 1,2295
New Zealand	2,0950 - 2,0985	1,2230 - 1,2250
N. Zealand	2,0950 - 2,0985	1,2230 - 1,2250
Peru	2,1490 - 2,1520	1,2285 - 1,2295
Portugal	2,1490 - 2,1520	1,2285 - 1,2295
Russia	2,1490 - 2,1520	1,2285 - 1,2295
Spain	2,1490 - 2,1520	1,2285 - 1,2295
Turkey	2,1490 - 2,1520	1,2285 - 1,2295
U.A.E.	2,1490 - 2,1520	1,2285 - 1,2295

* Selling rate

MONEY MARKETS

Rates hold firm

THE TONE to interest rates remained firm yesterday in London, New York and Frankfurt. Three-month interbank rose to 12.5-12.6 per cent in London as sterling came under pressure on the foreign exchanges.

In New York the Federal Reserve drained reserves from the banking system via two-day matched sale and repurchase agreements, when Federal funds were trading at

UK clearing bank base lending rate 13 per cent from November 25

9.5 per cent. The market believes the Fed may have raised its target for overnight Fed funds to 9.5-9.6 per cent from 9.4-9.5 per cent. Last Friday the rate averaged 9.31 per cent.

In Frankfurt short term interest rates had a firmer tone on disappointment that the Bundesbank set another tender with no fixed rate for this week's securities repurchase agreement. At last week's tender - also without a fixed rate - most bids were below 6 per cent, but ranged between 5.90 per cent and 6.20 per cent. Not much change is expected this week, but dealers warned that some banks are likely to bid at a high level to ensure receiving funds.

Call money rose to 5.85 per cent from 5.75 per cent as the lack of a fixed rate tender

MONEY RATES

NEW YORK

Treasury Bills and Bonds

Lunchtime

Primer rate: 9.31

Broker rate: 10.5%

Bank rate: 10.5%

Fed Fund rate: 9.25

Bank rate: 9.25

Overnight: 9.25

One Month: 9.25

Three Months: 9.25

Six Months: 9.25

One Year: 9.25

London Interbank: 9.25

Overnight: 9.25

One Month: 9.25

Three Months: 9.25

Six Months: 9.25

One Year: 9.25

NEW YORK STOCK EXCHANGE COMPOSITE PRICES

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IN ITS SCIENCE**

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THE LCD MONITOR FROM PHILIPS

PHIIPS

Continued on Page 45

NYSE COMPOSITE PRICES

**12 Month
High Low Stock** **\$14.75** **Div. Yld. E 10% High Low**
Continued from previous Page

OVER-THE-COUNTER

*Nasdaq national market,
2pm prices February 21*

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FINANCIAL TIMES
EUROPE'S BUSINESS NEWSPAPER

ANSWER

AMERICA

Dow drifts as Greenspan steals limelight

Wall Street

ATTENTION focused yesterday on the testimony to Congress by Mr Alan Greenspan, chairman of the US Federal Reserve, and equities traded in a narrow range in quiet trading.

The Dow Jones Industrial Average started with modest gains and at 2pm, the index stood up just 0.15 at 2,325.00 on only moderate volume of 87m shares.

Trading activity has dropped since the healthy daily volumes recorded in the second half of January and the first half of this month. Last week, total volume was its lowest for five weeks and failed to pick up even when, on Thursday and Friday, the market rebounded from a string of daily losses.

The environment was not

particularly favourable for a continuation of that rally yesterday, as Mr Greenspan started his regular Humphrey-Hawkins testimony to Congress and the reaction to it by both the dollar and US Treasury bonds was somewhat negative.

The dollar had been trading quite strongly in European markets, but then dipped as Mr Greenspan testified. At midday, the US currency was quoted at its lows of the session of Y126.60 and just above its lows against the West German D-Mark at DM1.8375.

The slide in the dollar appeared to follow disappointment that the Fed chairman did not announce any new initiatives to fight inflation - in other words, a rise in the discount rate.

Stocks and bonds dipped in line with the weakening dollar, but the reaction was not dramatic in either market.

Nothing that Mr Greenspan said was particularly surprising. He was duty bound to speak strong words about inflation to justify the tightening in monetary policy last week, amid noises from the Administration that it was not happy with higher interest rates.

On the other hand, Mr Greenspan did not seem to signal any significant need to raise interest rates further, saying that monetary policy was about on track.

Another reason for caution was the fact that consumer price figures for January are released today. Markets are particularly sensitive about these figures because of the worrying jump in producer prices for the same month.

The narrow trading range was also partly tied to the fact that the market had reversed its downturn so significantly at the end of last week.

Arvin Industries surged 3% to \$24.40 after news that Mr Ismando Wanandi, an Indonesian investor, had built up a 5.6 per cent stake in the company and may try to take it over.

Arvin has said it wants to remain independent.

Polaroid lost 3% to \$43.75.

The company is offering to buy

back 16m shares for \$50 each in its continued efforts to stave off the hostile takeover bid by Shamrock Holdings.

Cordis gained 1% to \$13.75 after the company pleaded guilty to charges related to its former cardiac pacemaker operations and agreed to pay fines and reimbursements.

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Canada

THE STRENGTH of gold and energy stocks was insufficient to counter lower industrial and bank issues in Toronto and the midday composite index was off 2.5 at 3,595.6. Volume reached 12.4m shares.

Corona was unchanged at C\$8.48 after Kam-Kota Mines and Dickenson Mines rejected its takeover offer for them. Kam-Kota was down 7 cents at C\$2.53 and Dickenson Mines was steady at C\$6.90.

The OMFT 50 index rose 6.57 to 465.17, while the CAC 40 index was unavailable. The market ended the February account lower for the first time in 10 accounts, but even then it was only off about 0.2 per cent.

Eurotumot was the busiest stock again, adding FF14.65 to FF14.75 with over 2m shares traded. Casino was active, rising FF10.50 to FF216.50 on revised rumours that family members might be interested in selling their 30 per cent stake.

Metaleurop shone brightly again as investors returned to the metals issue after profit-taking. It rose FF17.30 or 4.9 per cent, to FF157.50.

FRANKFURT continued to suffer from a lack of interest and corporate news, with volume remaining very low, at DM2.24bn. Share prices eased, although there were signs that some money was moving into stocks in more defensive sectors such as retailing.

The FAZ index shed 2.81 to 553.80 and the DAX lost 12.39 to 1,307.52. A rise in the dollar before the congressional testimony by Mr Alan Greenspan, the US Federal Reserve chairman, renewed concern about interest rate rises.

Foreign interest was low and one German fund manager said that three-quarters of his institutional orders from abroad in the past two to three weeks had been sales.

Among the more defensive second-liners, retailer Karstadt rose DM2.10 to DM427 and construction stock Holzmann gained DM2 in DM681.

Utility EWE shed DM45.50 to DM254.50 in the day's second most active trading. It has outperformed recently so the fall was attributed mainly to profit-taking. However, energy and metals group Vlsg said yesterday it would not sign another 20-year contract with RWE when it renegotiates next year.

Vlsg fell DM2.30 to DM255.80 after saying it expected a 9.4 per cent rise in 1989 group profits.

AMSTERDAM failed to hold onto Monday's gains and ended slightly easier as the dollar weakened after Mr Greenspan said he wanted the US currency to be stable. The CBS tendency index shed 0.10 to 162.9.

Philips added 40 cents to FI 36.70 against the trend before tomorrow's 1988 testimony by Mr Arbed, the publisher, the US Federal Reserve chairman, renewed concern about interest rate rises.

Insurer Aenev shed FI 2.10 of its speculative FI 43.00 rise on Monday to close at FI 51.52.

ZURICH had a quiet session, as investors awaited Mr Green- span's testimony. The Crédit Suisse index added 2 to 52.9.

Metal company Alusuisse, much in demand of late on its profits forecast, saw its bearers shift SF3 to SF930 as the aluminum price weakened.

MILAN ran out of steam after Monday's 1 per cent rise

EUROPE

Worry over interest rates again clouds the horizon

INTEREST rate worries, school holidays and profit-taking left most European bourses unchanged or weaker in thin turnover, writes *Our Markets Staff*.

PARIS began the March account on a quiet note, as technical problems delayed trading on the continuous market until early afternoon. Interest rate worries dampened enthusiasm and volumes were restricted by the absence of many investors, who were taking time off for their children's school holidays.

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The strong pulp market helped Modo free B shares rise SKR3 to SKR30.60 while Stora B shares added SKR10 to SKR38.50.

Volvo B shares put on SKR14 to SKR14.50 in heavy trading.

One analyst said there was speculation about the value of its property assets after the company said it was selling them to a new company which might be spun off and quoted on the exchange.

already equals SKR5.9bn, much of the money is now in the market. SWB says: "Without new money, the strong liquidity will only be a driving force for another two months or so."

Stockholm's equity market performed well yesterday, rising to another all-time high on strong demand for forestry shares and speculation about car maker Volvo. The Affärsvärlden index added 3 to 1,085.1 and turnover was worth SKR308m.

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and prices ended little changed in another thin day's trading, with the Comit index off 0.32 at 591.43.

Pirelli rose L75 to L3,080 against the trend, amid interest from domestic and foreign investors over the company's first publication of consolidated results in April.

BRUSSELS saw strong demand for steel shares on the opening day of the new forward market account, but the cash index eased 2.81 to 162.9.

In steels, Clabeq soared BF1260, or 10 per cent, to BF12,900 on heavy turnover of 34,000 shares. Arbed, Rose BF1180, or 3.3 per cent, to BF15,620.

GB-Inno, the retailer, rose BF12 to BF11,000 after reporting improved annual profit.

FINLAND eased on profit-taking after four consecutive record highs, and the Unilas index lost 1.1 to 733.1 in quiet trading.

Amer free A shares fell FM5 to FM175 after being suspended on Friday for news of its purchase of Wilson Sporting Goods.

MADRID turned its attention to interest rates after the previous day's news of higher inflation, and the general index fell 0.5 to 272.57.

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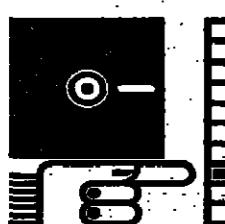
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Amer free A shares fell

SECTION III

FINANCIAL TIMES SURVEY



There is a decidedly uneven performance pattern across the various sectors of the world computer industry, but some suppliers who are finely-tuned to the turbulent and highly competitive computer market are doing exceptionally well, as Alan Cane reports here

Shake-out well under way

THE LONG-ANTICIPATED shake-out in the computer hardware industry worldwide is now well under way. The broad picture is changing almost daily as the effects of intensifying competition, high research and development costs and technological innovation take their toll.

The industry has recovered to some extent from the dole-drums which have been afflicting it over the past few years, but if customers are spending money again, they are spending it more cautiously than in the past.

In particular, while they want value for money from their conventional data processing equipment and reckon they know how to get it, they are confident about committing funds to information technology projects until the competitive advantages and justification becomes more clear.

Surveys by the management consultancy Price Waterhouse suggest only a modest increase in spending on computer hardware by US companies in 1988. The picture in Europe is a little brighter; while Japanese companies intend to spend strongly on both hardware and software.

The effects of the shake-out include a decidedly uneven



CONTENTS

- International markets compared, page 3 and 4
- Main product sectors: supercomputers, mainframes, mid-range computers, workstations and personal computers, pages 4 to 8.
- Key issues: operating systems debate, PC architecture, software and services, pages 6 and 7
- Computer services: page 9
- Case studies: pages 10 and 12
- Portable computing, page 12

□ COMPUTER APPLICATION, pictured, left: Office staff at 40 workstations key in details of around 500,000 daily charge card transactions at the Swindon offices of PHH Allstar, the vehicle fleet management company. The company spends up to £8m a week in settling fuel bills by its clients' vehicle fleets.

market share, especially in the mid-range, and its share price, over the last few years.

Its AS/400 midrange computer, the key to its plans to create compatible families of computers from PCs to mainframes, seems to be proving a success. Available in volume only since August last year, it has already shipped some 30,000 machines at a price between \$100,000 and \$200,000 per system.

Furthermore, its plans to cut operating costs are bearing fruit. Some 6,500 people have already resigned under a special voluntary redundancy programme, far in excess of the 3,000 it had expected.

Established vendors turned to new outlets to increase revenues. For example, Honeywell Bull in the UK started "Honeywell Express" two years ago - a mail and telephone order volume business for computer consumables and the like. Now it is doing business worth £2m a month, according to Mr Brian Long, the group's managing director in the UK.

Philips Business Systems, again in the UK, moved into the third party maintenance business.

Two forces, in particular, seem to be at the heart of the varied performances seen across the industry:

■ First, the move to "down-sizing" - replacing expensive systems with smaller, cheaper systems based on the latest and most powerful microprocessors - seems to be advancing rapidly.

■ Second, the industry's customers are making their real

Continued on Page 3

The Computer Industry

manufacturers who were IBM's only serious competition a decade ago, is in trouble. Both its mainframe and supercomputer business are losing money and market share, and it narrowly avoided a technical default on a \$100m credit line by turning in a slim profit for 1988.

Digital General, which, with Digital Equipment Corporation (DEC), pioneered the minicomputer revolution in the 1970s, is still fighting back from a series of poor results. Norsk Data, the wonder of Norway, lost money in 1988, some £70m, for the first time in 16 years. The shock triggered a dramatic strategic re-orientation, including the sacking of 800 workers.

Wang, a high flyer in the early 1980s, is making a fitful recovery from losses in 1987 and analysts are pessimistic about its prospects for 1989.

The mainframe sector has seen some of the most serious developments. Control Data, one of the "Bunch" group of

tuned to the turbulence of today's computer market have been turning in some sparkling performances. Compaq, now second only to IBM as a manufacturer of professional personal computers, reached \$1bn in revenue faster than any company in history.

Sun Microsystems, which dominates the market for sci-

entific and engineering workstations grew at an even faster rate and has announced it is planning to enter the general purpose personal computer market.

Apple Computer, despite a blip in profits caused, apparently, by overstocking on memory chips when scarcity had forced up the price, continued

to prove that its "Macintosh" technology was viable in a world dominated by IBM personal computers.

Digital Equipment, whose excellent growth in recent years has been based on a product line well aligned with its customer's requirements for compact computer systems that can easily be enhanced or

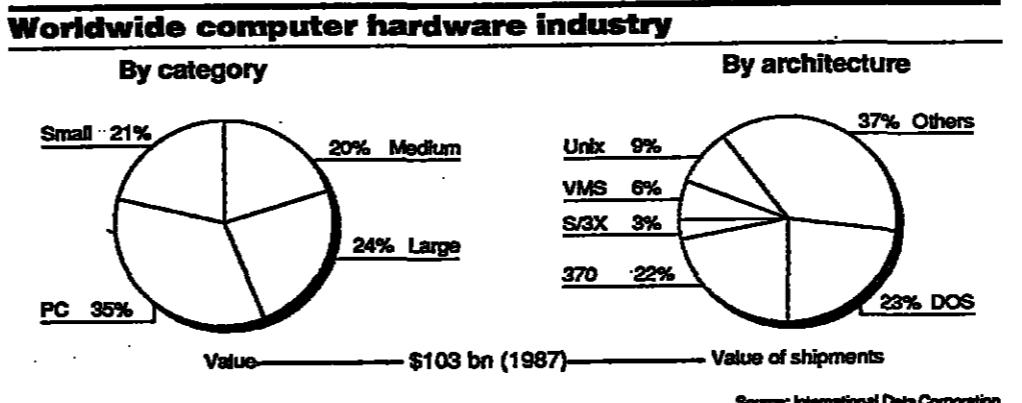
upgraded, continued to shine and made powerful progress in bringing down the cost of its technology.

Its latest VAX 6300 line, announced last month, gives a price/performance of less than \$30,000 for each "millions of instructions per second" (or mips) of power, an improvement over the preceding ranges of between 30 per cent and 60 per cent.

Both Tandem Computer and Stratus Computer, specialists in fault-tolerant computing and on-line transaction processing, showed strong growth despite their powerful involvement in the financial services marketplace where there has been a general slow-down in the purchase of information technology equipment.

IBM, the world's leading computer manufacturer and the dominant force in mainframes, showed that it had started to correct the weaknesses in its product line which have badly affected its

However, companies well



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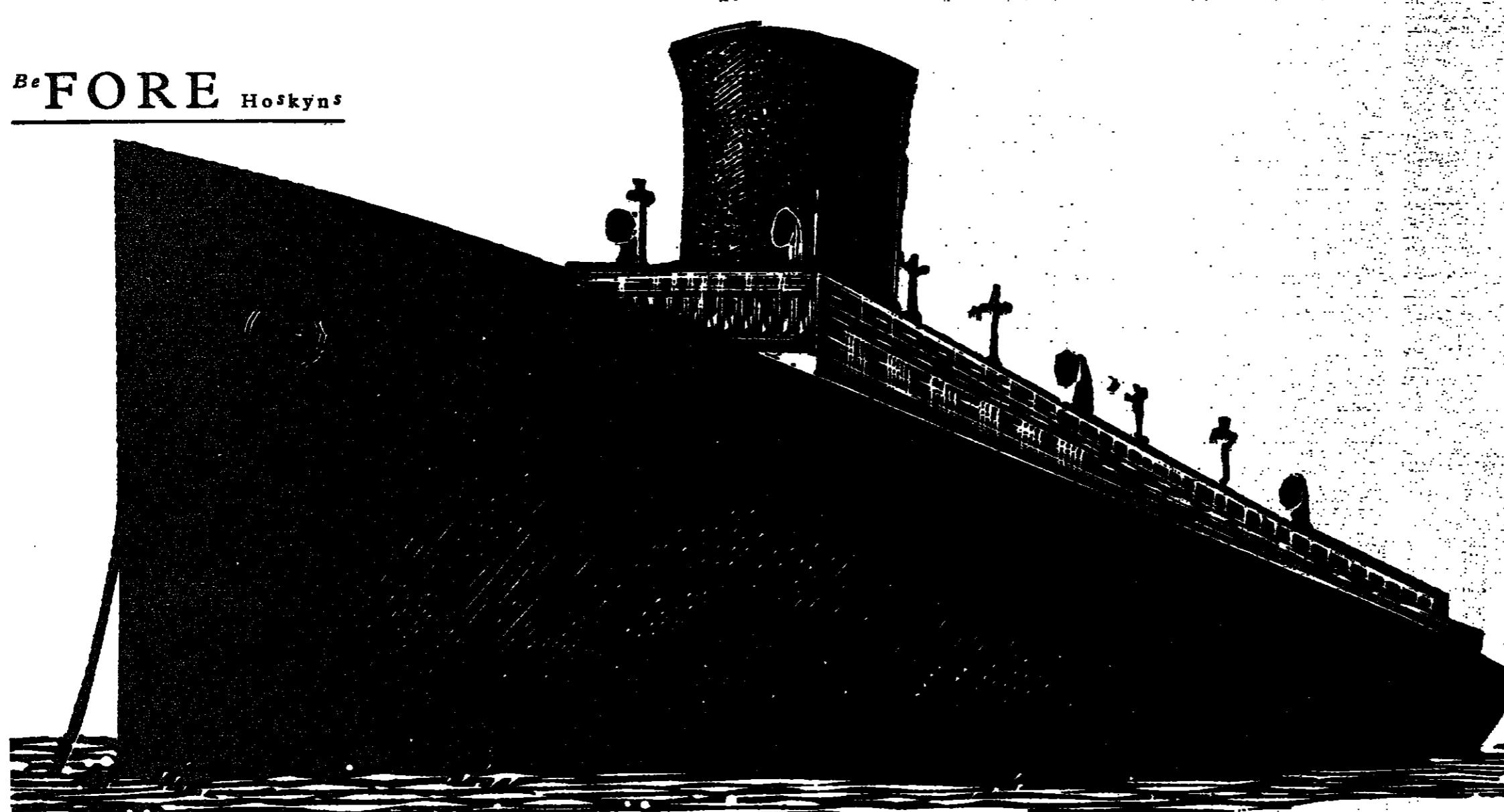
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THE COMPUTER INDUSTRY 3

The 1992 EC programme could bring a wave of mergers, says Terry Dodsworth, Industrial Editor

European suppliers braced for big changes

If THE objectives of Europe's ambitious plans for market integration in 1992 are met, the computer industry stands to be affected more than most other manufacturing sectors.

One reason for this exposure to the forces unleashed by the 1992 programme is the expected change in the customer base of the computer suppliers.

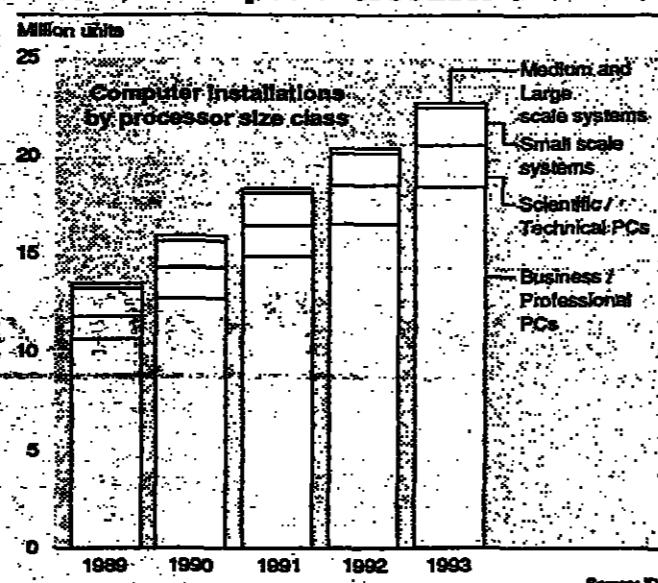
A wave of mergers and rationalisation is expected across the European Community. This will bring in its train a similar demand for a streamlining of computer manufacturers. As these companies concentrate their data-processing orders on larger manufacturers, the computer producers will also be required to become more international in their approach.

At the same time, computer producers can expect a shift in the ordering pattern of public sector customers, currently one of their major markets. A large proportion of Government contracts are channelled today into local computer manufacturing businesses — either national champions that have been deliberately sponsored by governments as a means of developing high-technology industry, or US companies that provide jobs and imported technology. But by 1992, this local advantage is supposed to disappear.

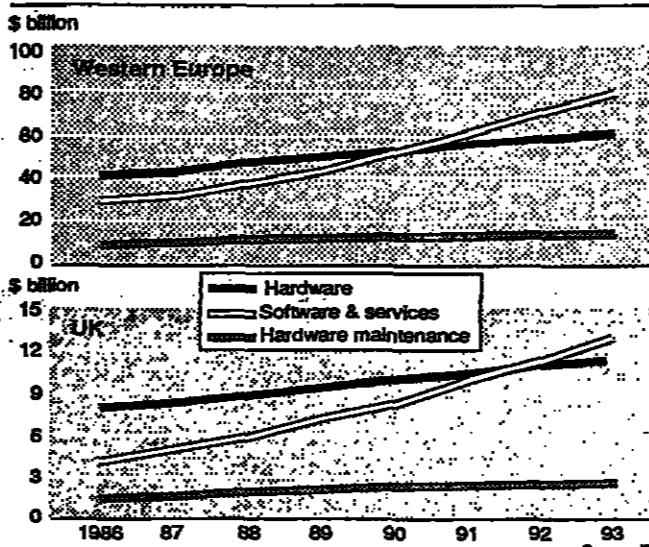
Virtually no-one believes that this planned change in the market will occur overnight, and there is a great deal of scepticism about the willingness of several European governments to change deeply engrained habits of national procurement.

Nevertheless, the computer companies are having to plan for a situation in which they

Western European forecasts



Information Technology expenditure forecasts by category



no longer have assured domestic markets, and where competitive bidding is likely to be more intensive than in the past. In short, they now need to have a strategy for Europe as a whole.

Three main points have emerged up to now in this trend towards European integration.

First, many of the big American companies are already well organised on a pan-European basis, easily outstripping the ability of their European competitors to provide cross-frontier services. All of the top four US groups in Europe — International Business Machines, Digital Equipment, Unisys and Hewlett-Packard — have well-

established roots in the main markets.

This phenomenon derives partly from the way US companies have tended to tackle Europe as a single, continental sales area. Coming from the US, where they are used to marketing on a continental scale, they have found it easier to jump frontiers than most of their local rivals.

At the same time they have had more financial and technological muscle than many European companies, helping them to carry the heavy cost of overseas expansion.

Second, a few European leaders are now beginning to move beyond their own national bailiwicks: Siemens, the largest of

the indigenous European groups, for example, has established a strong presence in Italy, and has begun to invest heavily in both the UK and France — in the latter market it recently acquired IN2, an information technology company.

Similarly, Olivetti, the second largest of the Europeans, has been pushing overseas, partly by acquisitions such as the Triumph Adler purchase in West Germany, and partly by organic growth, based upon its range of office equipment.

Bull, the French State-owned group, has also established a relatively broadly-based European presence through its emergence in the lead role at the former Honeywell Bull

group. This shift of control means that Bull will now have a significant presence in markets such as Britain, a traditional Honeywell stronghold.

In the personal computer sector, the last few years have also seen the development of Amstrad, the UK supplier of cheaply-priced IBM compatible machines, as a pan-European organisation. Amstrad is still in the early stages of this expansion, but its aim is to establish a group that can sell a consistent product line across Europe, based on a common operating system.

Third, Europe is moving with increasing rapidity towards common standards in key features of computing, a

process which is making it easier for companies to move into new markets from a technological point of view.

The push towards common standards is coming from a variety of directions. It partly derives from political considerations — the feeling in government that European companies cannot stand up to the might of IBM, the world's leading computer company, if they continue to sell the market by selling products with a variety of operating systems.

At the same time, more and more users — particularly governments — are demanding standardised products. As computing spreads further into the day-to-day operations of business and administration, common standards mean reduced costs — the same software can be used throughout the organisation — more flexibility, because users will not be locked into one type of computer, and easier communications between computers — an increasing demand with the development of networks of interconnecting machines.

The shift towards open standards and the growing importance of departmental data processing are two factors which have been favouring European computer manufacturers over the last few years.

Although the Americans have strong players such as Digital Equipment and Hewlett-Packard in this sector, IBM has not yet been able to transfer its overwhelming strength in large mainframe computers into the market for mid-range machines. Hence the Europeans have been gaining market share.

According to the Datamation trade magazine, European

THE TOP TEN EARNERS

The top ten European revenue-earners for information systems in 1987, (with total worldwide IS revenues in brackets); values expressed in \$m.	
1.IBM	\$18,332.5 (total: \$50,485.7)
2.Siemens AG	\$4,981.6 (\$5,703)
3.Olivetti	\$3,802.5 (\$4,637.2)
4.Digital Equipment Corp.	\$3,533 (\$10,391.3)
5.Nixdorf Computer	\$2,852.2 (\$2,821)
6.Group Bull	\$2,345.8 (\$2,007.5)
7.Unisys	\$2,272.9 (\$8,742)
8.Philips	\$2,055 (\$2,601.8)
9.Hewlett-Packard	\$1,800 (\$5,000)
10.ISTC	\$1,720.4 (\$123.9)

Source: Datamation, 1988

owned companies accounted for 46 per cent of the revenues of the top 25 computer companies in the region in 1987, the last year for which it has figures. This compared to 40 per cent in the previous year, and 36.6 per cent in 1985. IBM's sales, by contrast, slipped to 25.3 per cent in 1987 against 42 per cent in 1984.

While these figures underscore the way the indigenous European producers have seized the opportunities presented by the growth of departmental computing, these companies are by no means certain of maintaining this new-found growth. Among the challenges are:

■ American companies are beginning to hit back. All the big computer groups, including Unisys and IBM, have now

moved to accommodate the European drive for common standards and are now coming up with their own Unix offerings.

■ New competitors have emerged from the US in departmental computing with the extraordinarily rapid growth of workstation producers such as Sun and Apollo.

■ Above all, how will the indigenous computer groups go about the tricky business of establishing pan-European organisations? Market integration in 1992 will force home this issue because of the effect it is likely to have on the corporate clients of the computer manufacturers.

It is now widely expected that these customers will go through a period of international reorganisation that will involve a wave of takeovers and mergers. Rationalisation will inevitably mean an effort to impose uniformity on the data processing departments of these enlarged groups, a process that will mean the loss of clients in some cases, but the opportunity to follow their customers into new geographical markets.

The computer groups, therefore, will have to try and establish pan-European organisations of their own. Organic growth may play a part in this, and companies are also thinking of more joint ventures and alliances.

But the shake-out could also lead to a series of mergers and alliances to enable producers to fill out both their product lines and their market positions. This is why the industry is now watching to see how the big companies — Siemens, Nixdorf, Bull, Olivetti and ICL — play their hands.

from being the dinosaurs, still represent about 25 percent of total computer revenues in the US. With anticipated growth at a modest 4 per cent per year, however, the influence of the mainframe on the overall market is gradually diminishing.

Driving demand for higher performance computers at every level is the widespread use of computer graphics.

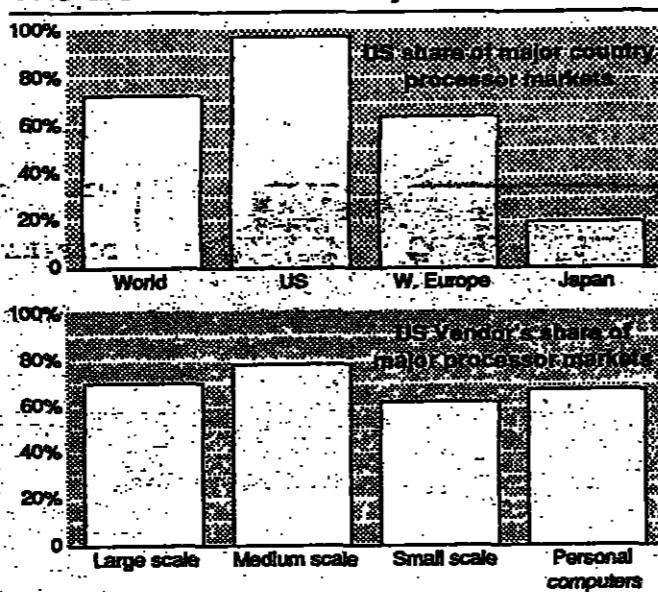
In 1988, US sales of computer systems and software used in computer graphics systems totalled \$9.1bn, according to market analysts.

At the very top of the performance scale in computing, there has been a proliferation of new approaches to supercomputing with the emergence of two new important classes of computers known as mini-supercomputers and parallel mini-supercomputers.

Louise Kehoe highlights new trends in the US market

The year of the computer network

The worldwide market, 1987



translating is becoming essential.

The 'open systems' movement, has created widespread collaboration in the US computer industry as hardware and software developers strive to find common standards. It is also, however, at the root of a major industry split over the

AT&T led Unix Interna-

tional group. With no sign of any reconciliation of this row, analysts predict that two standards will emerge making it more difficult for computer users to implement true open systems.

The explosion in computer networking will create a \$4.5bn market for local area network computers by 1991, according to analysts at Dataquest, the American research group. They see sales of the equipment and software needed to tie computers together rising at the rate of about 25 percent per year.

The dominant role of the personal computer in the trend toward networked computing is demonstrated by the increasingly large proportion of industry revenues that it represents. Last year, according to Dataquest, US personal computer sales totalled \$22.4bn, or close to 40 percent of all computer system sales.

The spectacular growth of personal computer sales, which ran at about 38 percent last year, is beginning to slow down, say some market analysts. This year, sales are expected to grow by about 18 percent in the US, with the average growth rate over the next five years pegged at about six percent.

Because personal computers

represent the largest sector of the computer business, any slowdown will be reflected in industry growth rates. Dataquest predicts that US computer system sales will grow at an average rate of 7.2 per cent over the next five years to total \$63.8 bn in 1992.

The overall figures mask what is expected to be continuing spectacular growth in the computer workstation sector. These are desktop computers that are capable of performing sophisticated computer aided design, engineering or analysis tasks. Sales will rocket

from a 1988 total of \$1.9bn to over \$4.8 bn in 1992, the market analysts predict. This averages to an annual growth rate of 30 per cent.

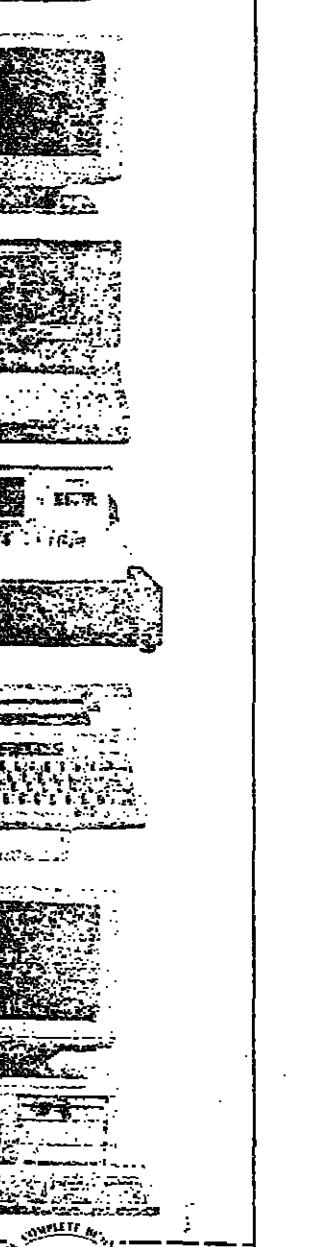
As the performance of personal computers continues to improve, and prices of low-end workstations come down, it is becoming increasingly difficult to differentiate between these two product categories.

Indeed, workstation manufac-

turers such as Sun Micro-

systems are expected to begin to encroach upon the markets of major PC-makers this year.

While the personal computer



Shake-out now well under way

Continued from Page 1
requirements known through an unprecedented combination of lobbying and budget power and the speed with which this has had an effect on contracts and orders has caught a number of companies on the hop.

Norsk Data was hit by both trends. It failed to move quickly enough away from its own proprietary technology to systems built from the new microprocessor chips and it failed to realise how rapidly its major customers in government and defence would demand "Unix" operating system capabilities as a pre-requisite for bidding for major contracts.

Unix, developed by AT&T is seen today as the best prospect for the basis of an industry-wide common operating sys-

tem for small and medium sized computers.

In retrospect, it is easy to see why Norsk Data fell into the trap. Three years ago, it could hardly keep up with demand for its proprietary technology and had to change to a different set of processor chips and to an operating system that had little commercial acceptance until it became foolhardy.

Hewlett-Packard, the US minicomputer manufacturer, however, grasped that particular nettle with apparent success.

In the early 1980s, it took the enormous gamble of redesigning its entire product line around a new kind of computer architecture - reduced instruction set computing, or RISC — which played off simplicity in

hardware against complexity in the software. It shipped its first RISC machine in November 1986.

Last year, its volume of orders grew some 20 per cent, the strongest since 1984. Orders for the new design of computers running HP's version of Unix exceeded expectations, a highly satisfied John Young, chief executive, reported.

Looked at from the outside, the computer industry over the past couple of years must have seemed a confusion of conspiracies, alliances, and agreements, especially in the standards arena. Much to the fury of its customers, the industry seems to be settling for two standard versions of Unix, one from the Open Software Foundation (OSF) and friends, and one from Unix International

(AT&T and friends).

It also seems to be settling for three personal computer design standards - industry standard architecture, extended industry standard architecture - Systems Applications Architecture (SAA) — in its bid to unite its PCs, midrange and mainframe computers through one common design.

If it is successful, the rest of

the computing industry will have to follow its lead and IBM will have secured its dominance into the 21st century.

skyns

THE COMPUTER INDUSTRY 4

JAPANESE MANUFACTURERS

System compatibility is a key issue

THE Japanese Government's recent decision to make Open System Interface (OSI) the standard for government information systems has provided a welcome boost to OSI's position as the leading international standard for interfacing computers of different makes.

The move affects computer-related government purchases worth around 100 billion yen per year, and follows similar announcements by Britain and Canada in 1986 and 1987, respectively.

The decision was backed up by the Ministry of International Trade and Industry's Patent Office, which ruled that from autumn 1990 all patent applications related to electronic information devices must feature compliance with OSI.

Compatibility issues were also on the minds of such Japanese companies as Ricoh, Fuji Xerox and Omron Tateisi Electronics, which recently were among 13 Japanese, US and European firms to newly join the AT&T-led 'Unix System 5' group.

This now brings to 45 the number of companies backing AT&T in its rivalry with IBM over the standardisation of the popular Unix computer operating system.

Already, Japan's two leading manufacturers of IBM-compatible computers, Hitachi and Fujitsu, have ended up in different camps.

Hitachi, citing reasons of greater potential policy flexibility, is backing IBM's Open Software Foundation (OSF) group (which now boasts 85 firms and universities under its wing), while Fujitsu is keeping company with other leading Japanese companies - NEC, Toshiba and Oki - in the Unix International camp.

Another reason Hitachi plumped for OSF was its belief that this will prove advantageous within the office work station market, currently one of the fastest-growing areas of

the computer business.

Work stations, more powerful than PCs, and one stage below mini-supercomputers, are increasingly in demand among financial analysts and desk-top publishers in Japan.

Previously, engineers were the key customers, but the growth of new, potentially huge, market sectors has led most Japanese computer firms to invest heavily in catching up with the US in the field.

In August, last year, Fujitsu tied up with industry leader Sun Microsystems of California to sell Sun work stations under its own name.

Previously, Nippon Steel, Toshiba and several other Japanese firms had tied up with Sun, reflecting the technical success of Sun's work stations.

The Japanese companies

main current aim seems to be to develop less expensive workstations which will be accessible to the office sector.

There is also competition developing with top-end machines of the conventional PC sector. Toshiba, for example, describes its 32-bit laptop as a 'personal work station'.

Japanese demand for workstations is expected to at least double within the year. During 1988, sales in the engineering sector reached Y75bn.

In the personal computer sector, strong domestic sales caused the Japan Electronics Industry Development Association to raise its forecast for domestic machine sales in this financial year from Y620bn to Y650bn.

Overall foreign and domestic PC sales rose 20 per cent in the last quarter, with unit sales of 605,000.

NEC still reigns supreme in personal computers in Japan, holding over 70% of the domestic market. This situation has spurred rival firms such as Sharp, Mitsubishi Electric and Sony (and around 300 other companies) to strongly promote the 'AX', a

newly-developed personal computer, compatible with IBM's top-selling 16-bit PC/AT model.

Last December, at an AX Convention in Tokyo, these suppliers showed off an impressive array of products which promise to pose a serious challenge to NEC's dominance. These included a large-capacity floppy disk offering 20 times the capacity of conventional units.

So far, however, sales have been largely confined to users planning to take advantage of sophisticated CAD software written for the PC/AT. Fujitsu is challenging NEC through the 32-bit market, and is expected to launch the first 32-bit machine priced at under 400,000 yen on the domestic market this spring.

At the other end of the scale, supercomputers are becoming an increasingly important and dynamic market sector. Prestige is also involved in the development of these phenomenally fast, high-capacity units, but even beyond that, issues of basic strategic capability, on an international scale, have become focussed in this sector.

In no other area is the critical importance of expertise in semiconductor production so clearly defined, and the Japanese makers - currently confined to Fujitsu, NEC and Hitachi - are confident that their superiority in this area will allow them to compete effectively against the United States' acknowledged lead in software and component manufacture.

Fujitsu is the market leader among Japanese companies, having sold 76 of its VP-series machines (18 of them overseas), which compares with the 23 unit sales of NEC's SX-A series.

In December last year, Fujitsu announced what it says is the world's fastest supercomputer, featuring a claimed maximum calculation speed of 4bm floating-point

operations (flops) per second, to be marketed at the end of 1990 or later.

Although this operating speed is eight times faster than the top-end unit of US firm Cray Research, analysis point out that the Fujitsu machine, the VP-2000, employs only two processors, while Cray's Y-MP unit features eight working simultaneously.

This nicely illustrates the different strengths of the US and Japanese manufacturers. America has a lead in efficient system design and software, essential in parallel processing, while the Japanese rely on super-fast technology, combined in 'vector processors', which break up computing operations into like-tasks, i.e. multiplication, division and so, to achieve the massive number-crunching process.

□ □ □

To add to their competitiveness, Fujitsu and NEC are already working on designs that will allow UNIX programs to run on their machines, and with supercomputer applications growing all the time, in such areas as vehicle design, structural analysis of buildings and astronomy, Japanese investment in the sector seems certain to grow.

The joker in the pack, however, is IBM, whose early moves into the supercomputer field have worried the Japanese, who recognise the giant company's strengths in both software and component manufacture.

Looking to the future, a special committee under MITI will soon start co-ordination of a basic research programme to study the development of computers, based on such advanced technologies as neuro, bio and fuzzy-type devices. The Laboratory for International Fuzzy Engineering Research (LIFE) will open in December. Customer shipments should begin in early 1990.

Roy Garner in Tokyo

CRAY RESEARCH

the Minnesota-based manufacturer of the world's most powerful computers, will next month begin testing the circuitry of its latest and most innovative machine.

The launch of the Cray 3, planned for the end of 1989 but already about a year behind schedule, will be a milestone in supercomputer development. It will be the world's first computer to use processors fabricated in gallium arsenide, a material which allows competitive operations to take place three times faster than in silicon, the semiconductor at the heart of virtually all today's computer chips.

There were a number of reasons for the delay, Mr Neil Davenport, the British-born manager of Cray's Colorado Springs manufacturing facility, said earlier this month.

First, the development programme had been seriously disrupted by the decision to relocate manufacturing to Colorado from Minnesota (Cray bought the facility from Inmos, the troubled transputer manufacturer).

Second, there had been the perhaps inevitable difficulties in designing novel circuits in a new and uncompromising material. The circuits to be tested next month will be the fourth revision. Features which are being built into the latest versions include resistance to electrical interference and static discharge.

Mr Davenport points out that there will be 400 different circuit types in the Cray 3. It took six weeks to redesign, manufacture and test a fairly simple circuit. As a consequence, the Colorado team believes it has progressed faster than it could have hoped for; if the tests go well it will build a four-processor system by the late summer and two full-scale prototypes in December. Customer shipments should begin in early 1990.

In the meantime, its older technology Y-MP and Cray 2

supercomputers continue to sell well. Sales figures for the final quarter of 1988 were outstanding - \$330m out of a total for the year of \$756.3m.

Nevertheless, the analysts are cautious, even pessimistic. Daniel Benton at US stockbrokers Goldman Sachs noted, for example: 'We cannot forecast 1990 earnings with a high degree of certainty until a successful launch of the Cray 3 is guaranteed. We believe this will take at least nine months, and as much as 12 months to be determined.'

Their caution stems from the

Processors made of gallium arsenide allow computer operations which are three times faster than those in silicon chips

fact that the world of supercomputers is small and prey to technological trauma and commercial perturbations. The market could be worth \$20bn by 1991 but supercomputers are still used almost exclusively for scientific research and related activities where processing power is at a premium. Weather forecasting, engineering design and oil exploration are typical examples.

A major development in recent years has been the trend to 'visualisation', to building a visual representation of a physical process on the computer screen.

Mr John Rollwagen, chairman of Cray Research says the quality of these images will soon surpass attempts to observe the physical process directly, opening a whole new kit of research tools for scientists and engineers - they will be able effectively to interact with three-dimensional simulation models on the screen in front of them.

Supercomputers of this quality are expensive - total sales in Europe are typically less than a dozen a year.

There are really only five

companies building supercomputers proper, that is single or multiple processor machines costing between \$2.5m and \$20m - Cray and Control Data in the West and Fujitsu, Hitachi and NEC in Japan. Cray reckons to have 64 per cent of the world market; if Japan is excluded, the figure goes up to 80 per cent.

Control Data, which built the world's first supercomputer while Seymour Cray was chief designer, has been having a difficult time recently. Its problems are the result of a lack of business focus and

eight processor Cray Y-MP. A major change in recent years has been the emergence of companies offering what are known as "mini-supercomputers," machines which exploit the power of modern microprocessor chips and sophisticated software techniques to give a fraction of the power of a Cray at a much smaller fraction of the price.

IBM has never really competed in the true supercomputer marketplace. Cray and CDC say they are seen mainly as competition at the lower end of their ranges from IBM's 3090 VPP, basically a large 3090 mainframe fitted with a vector processor to give added speed in scientific computations, but the results of IBM's own supercomputing research programme have yet to reach the marketplace.

The essential difference between a commercial mainframe and a supercomputer is cost. The supercomputer is tuned to carry out one computing task as quickly as possible. The commercial machine has to deal cost-effectively with a batch of very different kinds of tasks.

Even the esoteric world of supercomputing has been affected by the worldwide drive towards standards. Cray, for example, has developed a version of Unix - the operating system written at AT&T for medium-sized Digital Equipment computers for its machines.

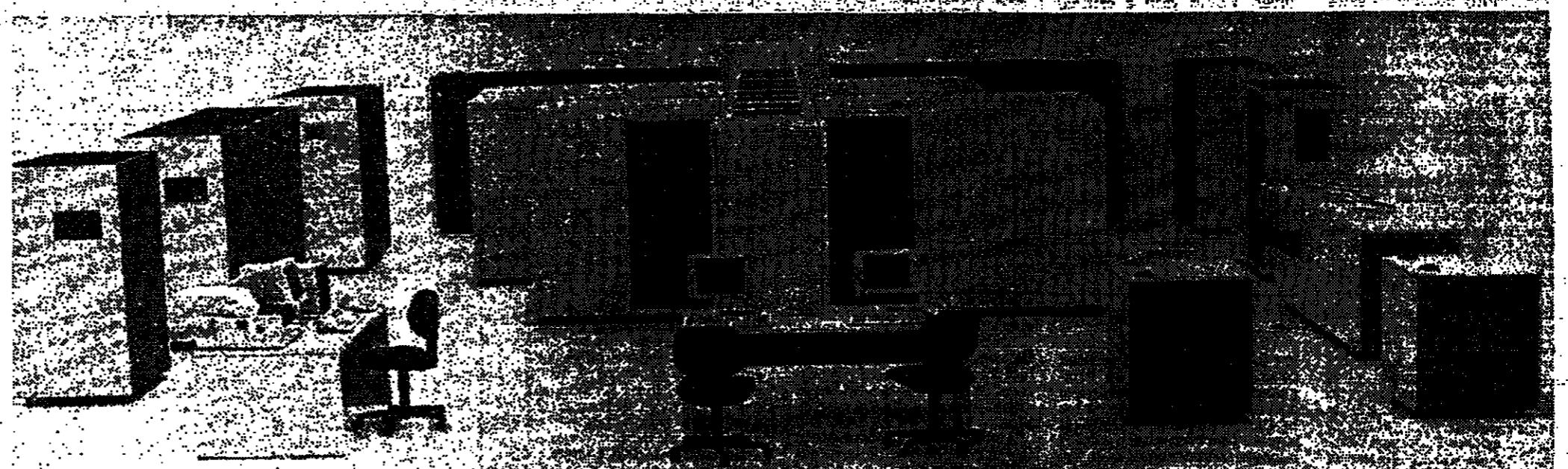
The idea is that computer users will be able to control the system using the familiar Unix commands and calling on the power of the supercomputer when necessary.

Control Data is following suit offering what it calls the "transparent computing environment" so that its machines can be more easily attached to those of other manufacturers. It also says it will offer Unix on its Cyber mainframes at the end of the year.

Alan Cane

MAINFRAMES

A radical shift in traditional markets



Large mainframes like this are used in the banking, insurance and finance sectors, as well as in scientific areas involving great volumes of data processing. For example, the Joint European Torus project at Culham in Oxfordshire - relies on an IBM 3090 mainframe, illustrated here.

THE MAINFRAME computer industry has come under relentless financial and industrial pressure since the mid-1980s.

Sales have continued to grow by about 8 per cent a year, roughly double the rate of inflation in the main industrial nations. But the manufacturers are being squeezed by rapidly-falling prices, inexorable demand for increased research and development spending as the product life-cycle decreases, and the continuing development of different forms of computing.

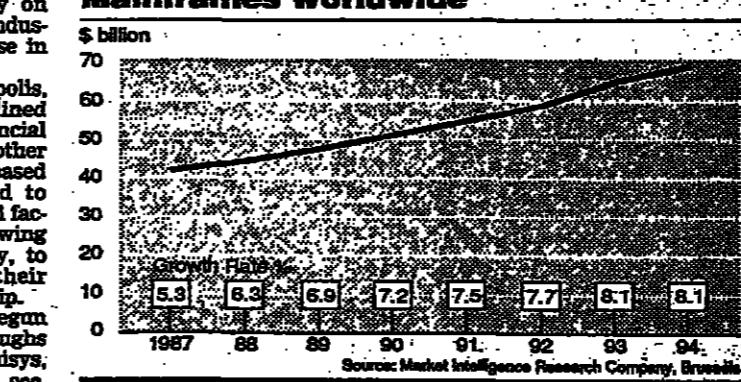
These changes in the market are best illustrated by the way that workstation manufacturers such as Sun and Apollo, or micro-computer producers like Apple and Compaq, have managed to capture the headlines.

These companies are in areas of data processing which are showing the fastest expansion at present - indeed, workstation manufacturers have been recording growth rates of 40 to 50 per cent - and they have been steadily eating into the predominant position of the mainframe manufacturers.

Industry figures indicate that mainframe sales accounted for only about 38 per cent of total worldwide revenues from the sale of computer equipment in 1987.

Faced with these radical shifts in their traditional markets, the mainframe producers have been forced to remodel themselves. Indeed, the shape of the industry has changed radically in the 1980s, as companies have developed a variety of different formulae to cope with these new conditions.

Mainframes worldwide



\$ billion

Source: Market Intelligence Research Company, Brussels

that enable them to fill in the gaps in their own product lines.

Some traditional mainframe producers have turned to alliances to help maintain their activity in this part of the market. ICL, for example, now maintains close technological co-operation with Fujitsu, the Japanese group; Siemens also has an arrangement with Fujitsu for its most powerful machines; and NEC, the leading Japanese electronics company, is part of the Bull-Honeywell combination.

Companies are refocusing their operations to give greater prominence to non-mainframe activities.

In Europe, for example, there has been a determined push into mid-range departmental computing based on the Unix operating system.

Both ICL in the UK and Siemens in West Germany have been prominent in this process, which they see as a vital element in their counter-attack against the dominance of the

operating system - Amdahl in particular - has experienced soaring revenues.

Underlying this trend towards commodity-type conditions in the mainframe market is the extraordinary progress that the semiconductor industry is continuing to make in chip performance.

The price of computing power - 1 million of instructions per second - is falling precipitously in tandem with the developments in chip technology, opening up multiple options for the design of computer systems.

Unisys, for example, is basing its drive into Continental European markets on this area of the computer business, arguing that the mainframe sector is both sluggish and hard to break into overseas because of customer loyalty to existing brands.

Most computer companies are aiming to generate an increasing amount of revenue from software and services activities. They see themselves more and more as systems integrators, companies that will take their own products and those of other manufacturers to link together into data processing networks.

Traditionally, this has been a fertile area of operation for independent consultants and software houses. But it is a natural business for big computer manufacturers to try and exploit, partly because mainframes still stand at the centre

of the success of the leading groups underscores the way in which sales in the mainframe market are becoming increasingly a matter of prices rather than special features that any individual manufacturer can supply. The same point is corroborated by the buoyant growth shown recently by manufacturers of machines that are compatible with IBM's

General bank and Econcom International in the Netherlands.

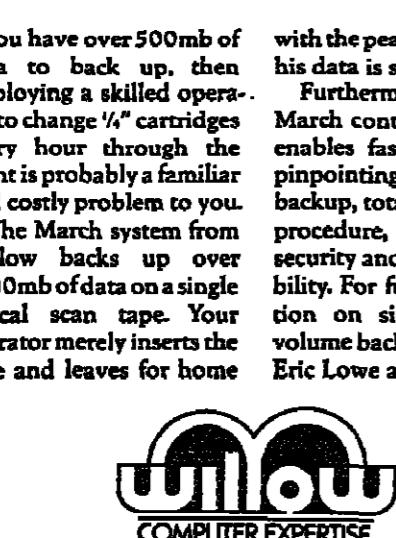
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Industrial Editor

All the big computer groups are working on ways of solving this problem. When they do solve it, the industry may well complete its evolution from a mainframe-dominated environment to one where mainframes are just a minor element in a range of specialised machinery all connected together by complex, inter-related networks.

Terry Dodsworth

Industrial Editor



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THE COMPUTER INDUSTRY 5

MID-RANGE COMPUTERS



A fully-automated assembly line for IBM's AS/400 range. These machines have been assembled and are then tested and packaged. Sales of this range have exceeded all forecasts, but IBM's success has made life more difficult for other minicomputer makers. Signs of stress are evident in some parts of the sector.

The industry's 'soft centre'

MID-RANGE computers represent what might be called the 'soft centre' of the computer industry. For most manufacturers, however, this has not been a sweet market over the past few years. Challenged at the low end by high performance personal computers and workstations, and squeezed out of high performance markets by new types of 'superminicomputers', these traditional business workhorses are facing a serious slowdown.

The exception is IBM's latest AS/400 range, introduced last June, which has exceeded all sales forecasts. With this range of minicomputers, widely known as 'Silentake', IBM has sorted out a mid-range middle ground incompatible systems and significantly boosted its sales.

Recently IBM said that it had shipped 25,000 of its new AS/400 minicomputers by the end of November, confirming that the new range had made a fast start in shaking up IBM's previously weak position in the minicomputer market.

IBM's success has made life even more difficult for other minicomputer makers. Market growth for \$20,000 to \$1m minicomputers has slowed to about five or six per cent per year from 15 per cent a few years ago.

The price and performance advantages that boosted minicomputer sales in the 1970s have been overwhelmed by less expensive microcomputer based systems in the 1980s. As the 1980s approach, minicomputer manufacturers are challenged to find a new role for their products.

The mid-range market squeeze has been a driving force in the trend towards open systems, says Louise Kehoe

Caught in the midst of this market squeeze are companies such as Data General, Prime, Hewlett-Packard and Wang. Digital Equipment, a leader in the minicomputer market, has thrived largely upon the weaknesses of IBM's mid-range products. Now it, too, is under pressure.

Signs of stress are clear throughout the minicomputer industry. Data General, which is estimated to hold a six per cent share of the US minicomputer market, laid off hundreds of workers last year and closed plants. The company reported losses of \$25m for the quarter ending in December.

Wang Laboratories is also facing an earnings and revenue decline as it attempts to revamp its product line. The company reported earnings of only \$1m in the December quarter, down from \$34 million in the same period of 1987.

Prime Computer is in the midst of a bitter battle to avoid a hostile takeover by MAI Basic Four. The company recently reported fourth-quarter losses of \$14.4m, compared to profits of \$21.3m in the same period of 1987.

The mid-range squeeze has also been a driving force in the trend toward 'open systems', or the setting of industry standards that enable different brands of computers to share software and data.

This new style of computing replaces proprietary hardware and software with standard chips and programs.

AT&T's UNIX operating sys-

Business people waste the equivalent of one day a week looking for information.

Supercomputer for West German university

CONTROL DATA of Minneapolis has sold a liquid-nitrogen-cooled supercomputer to the University in Aachen, West Germany.

The \$18m supercomputer, (model ETA10-G), designed and manufactured by ETA Systems, will have six central processors and 128m words of shared memory and will run the EOS operating system.

The Aachen system is the second ETA supercomputer sold in West Germany — the first is installed at the German Weather Service.

ETA is a subsidiary of Control Data which had revenues of £2.4bn in 1987.

□ □ □

Expert system

LOGICA has been awarded a contract by Citibank to build an expert system which will help to minimise the costs for maintenance and support of Citibank's CHAPS (Clearing House Automated Payments System) specific software.

CHAPS provides a mechanism for the electronic transfer and same-day settlement of sterling payments between settlement banks in London.

The system consists of a network of gateway computers, running standard gateway software, supplied

by Logica. Each bank then has its own bank-specific software, which links the user interface to the gateway software.

Logica has also undertaken development work to enhance the CHAPS bank-specific software for the Bank of England.

□ □ □

Complex City network

IBM has completed one of

the most complex and innovative data-cabling projects ever undertaken in the City of London — a multi-million pound installation for the new Lloyd's building in Lime Street.

It is the first data cabling project using fibre optic materials that IBM has undertaken in Europe.

The work, which involved some 200 miles of cable and 12,400 data-connectors to allow full inter-connectivity across the 12 floors of the building, was completed within 18 months.

"This was achieved despite a huge constraint of having to do most of the work outside normal office hours," says IBM (UK).

The company already supplies electronic networking services to Lloyd's and other members of the London insurance market.

□ □ □

3-D graphics system

HEWLETT-PACKARD has introduced an entry-level 3-D

graphics workstation which it believes will set a new price-performance standard for the industry.

At £11,500, the HP9000, model 340-SRX system is claimed to be the first 3-D workstation available for less than £12,000.

□ □ □

Hewlett-Packard stock

applied to list its stock on four European stock exchanges — in London, Frankfurt, Paris and Zurich. If approved by the respective exchanges, the stock listings will take place during the fourth week of April.

Hewlett-Packard stock is listed currently on the New York and Tokyo stock exchanges.

□ □ □

Recovery services

CONTINGENCY PLANNING is a growth market as more organisations become aware of their dependence on computer systems.

There is increasing realisation of the chaos that could arise if a computer system was shut down for even as short a period as two days.

The West European market for disaster recovery services rose by 30 per cent between 1987 and 1988, according to a report by analysts at Input. These contingency services brought in revenues of £32.5m in 1987, adds the report.

This year the Datasolve division of Datasolve, one of Europe's leading providers of information management systems, anticipates growth

of around 50 per cent in the sector.

Financial institutions are the main users of these contingency services, although the retail industry is increasingly seeking them.

□ □ □

New database system

A DATABASE system which can hold 4bn documents of any length with any combination of text and image

— and retrieve them at index speeds — has been unveiled by Realstream, a British computer-solutions company.

The Origin system combines the storage capability of optical disk technology, which allows for 1m A4 single-spaced sheets of text to be stored on each 12in platter, with image processors, intelligent optical character readers and a management software programme.

The system can be used to integrate archives, documents, drawings, word processing, spreadsheets and text into one effective management and archiving tool, says Realstream of Dorchester.

□ □ □

New disk drive

NEC, the disk drive manufacturer, has launched a high capacity 5.25-inch half-height Winchester disk drive, offering an unformatted storage capacity of 180 megabytes.

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THE COMPUTER INDUSTRY 6

WORKSTATIONS

Market volume doubles in a year

"WHEN YOU look back, it's been an interesting year for the workstation sector," says Alex Osadzinski at Sun Microsystems, the Californian computer manufacturer.

"It saw the introduction of the Open Software Foundation and the start of the whole Unix standards war. Unveiled, it certainly hasn't been."

The past year has also seen the doubling of the workstation market, in terms of volume. This is a continuation of the expansion of recent years - an expansion which has been impressive even within the standards of the computer industry.

Over the last seven years, the size of the market for workstations - high-performance personal computers, used principally by scientists and engineers - has averaged 100 per cent growth.

That level of increase looks set to continue into the future. Mr Russell Crabs, an analyst at the Soundview Financial Group, the Stamford, Connecticut-based affiliate of the Gartner Group, believes that 200,000 32-bit Unix and VMS machines were sold last year. He expects the market to grow by 70 per cent in 1989. This sort of expansion has

been assisted by rapid improvements in the size and power of workstations over the last few years. This, in turn, has created the possibility of a wide range of applications which need powerful processing and high-quality graphics, including molecular modelling, computer-aided design and seismic analysis.

However, although the applications have been made available by the power of the machines, it has been the rapid fall in the price of that power that has created the new markets. The ratio between price and power has improved 70 to 100 per cent over the last two years.

The number of new markets looks set to increase still further. Although the scientific demand for workstations still continues to expand, a number of companies are now hoping to exploit the power of graphics workstations by entering the commercial and financial field. Dataguest, the market research company, estimates that only five per cent of workstations are used for non-scientific applications.

A number of companies, such as Sun Microsystems and the Digital Equipment Corporation (Dec), believe that financial analysts will be able

to understand complex data much more quickly and easily if the information is conveyed in colour graphics form.

Sun Microsystems has recently opened an office in the City of London which it hopes will serve as a point of entry into this, as yet, unexplored market.

As the market continues to expand, presenting what Mr Osadzinski at Sun calls an "insurmountable opportunity," a number of companies have entered the market. At the high end of

"We have seen extremely aggressive marketing in the last two years," says Mr Osadzinski. "Each company

fall which could severely affect the profit margins of the companies involved.

Competition at the low end of the market also looks set to become more intense. The larger companies, such as Sun, Apollo, Dec, Hewlett-Packard and Ibm are estimated to have 85 per cent of the workstation market between them, and are anxious to capture market share from the others.

Moreover, the merging of high-end PC market with the low-end workstation sector will accelerate the need to change.

"This sort of transformation can be extremely traumatic," says Mr Crabs. "It has all sorts of implications at every level of a company, ranging from production and quality control right through to distribution and servicing." He believes that Sun and Apollo will have to tread carefully as they make the transition. In particular, it will have an effect on their distribution channels as they switch from direct selling to dealers.

Although some of the margin lost to dealers could be absorbed by lower costs within the organisations' direct sales force, Crabs believes that the companies could be vulnerable to competition from more powerful competitors which

would have the means to accommodate larger marketing and advertising budgets and assimilate greater investment in inventories.

Moreover, their situation could be further eroded if they attempt to maintain their margins through higher prices. There is a risk that customers would buy low specification products and then buy peripherals, such as memory chips and disk drives, from third party suppliers.

Apple Computer recently faced a similar problem with its Macintosh product and was forced to reduce prices after pushing them higher. Basic machines without peripherals have little margin built into them.

Osadzinski is convinced that there will be a few more entries into the market during the next two years before it begins to shake-out. "There will undoubtedly be consolidation," he says. "The computer hardware industry will be like the automotive industry. At the moment, it's interesting to be the 18th largest computer company in the US. But it won't be, soon - there will only be a maximum of five or six top players. You're either worth \$10m, or you've been bought by someone."

Expansion in this sector is impressive even within the standards of the computing industry, says Paul Abrahams

has attempted to offer improved performance at increasingly low prices. That has affected margins."

He pointed out that 18 months ago a number of companies reduced the price of their products by as much as 40 per cent. The pressure on margins was exacerbated last year by the shortage of 1.5Mhz (16 bits of information) dynamic ram memory chips. Sun was even forced to raise prices, which, he claims, caused a shock to the corporate system and hurt both dealers and salesforce.

For example, Mr Crabs believes that the average selling price of multiple rise chip-based machines could fall by 15 per cent per year over the next two years - a

OPERATING SYSTEMS

The debate intensifies

THE COMPUTER industry has received a lot of adverse publicity during the last few months over its "Unix wars." Manufacturers have divided into two warring camps, each putting forward a different version of the Unix operating system as an industry-wide standard.

Large customers are becoming increasingly vociferous in their public condemnation of the manufacturers for failing to agree to develop one common open operating system for all computers.

"The confusion that this split is causing among users will slow down progress in the market place," says Mr Walter De Becker, information director of the European Commission. "We are of the opinion that the extra cost of working with different open systems environments should not be borne by the customer but by the industry."

The operating system is the software that computers need to regulate their internal workings and to run applications programs. Historically, each manufacturer has developed a proprietary operating system - and anyone who has made a large investment in, say, IBM or ICL computers, is, in effect, locked into using that hardware and software which is compatible with it.

Adoption of a standard operating system by all manufacturers would enable users to make big savings. They could run their applications programs on any machine with the required memory and processing power, instead of being confined to a single vendor.

Open systems would greatly increase the level of competition throughout the computer industry, among hardware and software suppliers, with all the benefits that competition brings in terms of greater choice, lower prices and faster innovation. Of course, a standard operating system is only part of the total infrastructure required for open computing - computers must also, for example, have a common language for communicating with other computers - but it is the most important part and the most difficult to achieve.

For historical reasons, the only candidate for a standard operating system is Unix, first written in 1969 as a research tool for AT&T, the giant US telecommunications group. Over the last 15 years AT&T has licensed many universities and computer companies to use and adapt Unix, and more than a dozen variants of the system have evolved.

The issue in the Unix wars is how best to consolidate the different versions into a single standard.

The opposing camps are fairly evenly matched in terms of numbers of members. The first group, Unix International (UI), is led by AT&T itself and includes Amicoil, Control Data, Fujitsu, ICL, NEC, NCR, Olivetti, Prime, Sun, Toshiba and Unisys.

The second group is the Open Software Foundation (OSF); OSF members include the two giants of the computer industry, IBM and DEC, together with Apollo, Bull, Canon, Data General, Hewlett-Packard, Hitachi, Nippondenshi, Norsk Data, Philips, Siemens, Texas Instruments and Wang.

In terms of total computer sales, OSF is far ahead of UI. But at present, US members sell more Unix systems than their OSF competitors. Because of this existing user base, UI emphasises the continuity of its approach.

In effect, the other UI competitors are giving their approval to the Unix consolidation and development programme that AT&T was planning in any case. The next step in that programme will be the introduction this summer of Unix System V Release 4, which consolidates the three most important commercial variants (Genix, Berkeley and System V).

So, while UI guides AT&T's Unix development work, it will not write any software itself. OSF, in contrast, has been set up as an independent software house, sponsored by its members. Its version of Unix, which will be based on IBM's AIX variant, is due out in the second half of 1990.

Needless to say, UI and OSF each claim that its unified version will be superior technically.

Although the rival camps spent much of last year discussing a possible merger, those talks have been suspended indefinitely, and it is clear that there will be two parallel Unix development efforts. The manufacturers say that this duplication will not necessarily have the disastrous effects feared by some users.

"A year ago there were five or six Unix camps, depending how you counted them," says Mr Volker Klein, international vice-president of Apollo. "I consider it good news that there are now two camps. After all, competition should be good for everyone in the market."



Walter De Becker, director of Informatics Commission

place.... The users are worrying more than they need to, agrees Mr Larry Dooling, president of AT&T's Unix Software Operation. "Although there are two competing software companies, at the level the user will see there will not be much difference between their products."

The reason why the rival Unix products are likely to end up looking very similar is that the users are now in a strong enough position to force UI and OSF to work along the same lines. If such large customers as the US government say that they will only buy Unix computers that meet certain common standards, then both groups will have to comply with them.

Although there are a number of standards bodies and other organisations through which users can channel their views, one of the most important is X/Open, a consortium of manufacturers which includes most of the world's large computer companies, with membership drawn equally from UI and OSF.

The mission of X/Open is to develop a Common Applications Environment which will enable applications software to run on any hardware (this includes not only a standard Unix operating system but also common networking and other features). X/Open has an increasingly vocal User Advisory Council and an Independent Software Vendor Council.

"While I might prefer that there was only one emerging Unix derivative, two is still far better than 12," says Mr Geoffrey Morris, president of X/Open. "As yet, there is no reason that applications portability cannot be obtained across these two emerging operating environments."

According to a market research forecast by International Data Corporation, sales of Unix systems will be worth \$20bn or 22 per cent of the world computer market in 1990 compared to \$5bn or 6 per cent in 1986. Although Unix has so far been used most extensively for medium-sized computers - especially those designed primarily for scientific or engineering research - there is no reason why it should not eventually dominate the whole field of commercial computing, from personal computers up through minicomputers to large mainframes.

It is absurd to expect one single version of Unix to serve such a wide range of systems, says Mr Peter Griffiths, chairman of the Instruction Set, a UK-based software consultancy. "Why should we suddenly become supporters of monopoly practices when it comes to the Unix operating system?" he asks.

This 'monopoly' results from a purist misunderstanding which fervently claims "there is only one real Unix..." Mr Griffiths says. "In fact, there will be many Unix implementations, fit for many different purposes and this will be Unix's great and enduring strength."

Clive Crook



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THE COMPUTER INDUSTRY 7

The big are getting bigger in the personal computer sector, says Louise Kehoe

Established manufacturers are gaining ground

IN THE personal computer industry, the big are getting bigger — while some small companies are struggling to survive.

An industry shakeout is beginning to get under way, say industry analysts, with significant consolidation expected among 'clones' makers.

After a banner year with over 30 per cent market growth in 1988, the outlook for personal computer sales this year is clouded by reports of falling orders from some of the industry's leading suppliers: Intel and Advanced Micro Devices, both major suppliers of microprocessors and related chips to the personal computer industry, said that they saw signs of a slowdown in the third quarter of 1988; since then several other chip makers as well as suppliers of disk drives, have reported disappointing sales.

As if to prove their suppliers wrong, however, top personal computer makers Apple Computer and Compaq Computer have reported record revenues for last year.

"What slowdown?" asks Rod Canion, president of Compaq Computer, in response to concerns about the outlook for the industry this year.

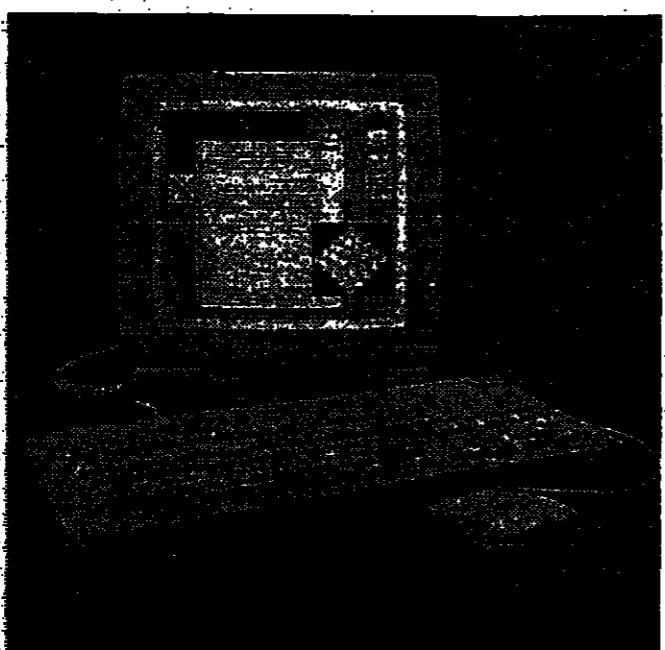
"You have to be careful in using the suppliers of components as a primary indication of what is really going on in the personal computer market place," he warns. "The market from our perspective continues to be very strong."

What is happening, Mr. Canion and others believe, is that a major shakeout among the industry's second tier manufacturers is getting underway.

The signals from the chip and disk drive suppliers are confirming, Mr. Canion suggests.

"Whenever a new phase of growth in the industry starts, you have hundreds of companies each planning to win a few percent market share. Somewhere along the way, reality catches up and people start cutting back."

The new growth phase that is currently under way in the



This network display station (NCD15) from Network Computing Services of Mountain View, California, offers high-performance windowing, resolution and communication capabilities.

personal computer market has been spawned by the advent of 32-bit microprocessors and the availability of software to take advantage of these higher performance chips. The major winners in this new product category are the 'big' players in the personal computer industry, while others have been left behind.

Companies that are well positioned — that have a clear position with the customers and have a distribution channel — are not seeing any kind of a slowdown at all," says Mr. Canion.

In the US, IBM, Apple Computer and Compaq Computer accounted for 65 percent of all personal computer sales through retail stores last year, according to Starchord Inc., a market research firm. Apple's revenues rose by 35 percent in the last quarter, while Compaq's sales were up by 68 percent.

Analysts predict that market growth will moderate in the US this year to about 15 per cent, down from 30 per cent last year, but they are predicting revenue gains of about 30 per cent by both Apple Computer and Compaq.

In Europe, too, established manufacturers are gaining ground.

Given the bewildering array of choices, customers are tending to 'play it safe' and purchase from one of the established manufacturers.

Computer sellers are also unsure of which way to turn.

Faced with the task of supporting increasingly complex systems, many of which are now networked in corporate offices, dealers have tended to limit the number of different types or brands of computers that they sell. Cut from these product lines are the 'no-name' clones, or those from less well known companies.

Another industry issue that has worked, in most cases, in favour of the larger manufacturers, has been a serious worldwide shortage of memory chips. Personal computers account from more than half of

jump in European sales of personal computers and workstations last year.

Several technology and market trends are combining to provide the largest personal computer companies with a competitive advantage. Most significant is the increasing complexity of personal comput-

ers.

Ironically, as the industry strives to make personal computers more 'friendly', the task of choosing a personal computer is becoming more difficult. Potential customers are confused by the diverging standards in high performance personal computers as IBM pursues its 'microchannel architecture' while Compaq and many others aim to develop an alternative 'extended' architecture that takes advantage of 32-bit microprocessor power, while maintaining compatibility with existing 16-bit software and peripherals.

Adding to the weight of confusion is the switch from MS-DOS, the established personal computer operating system to OS/2, as well as the increasingly widespread use of a new 'micro' disk drive for which new copies of programs must often be purchased.

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all DRAM (Dynamic Random Access Memory) chip applications, and the shortage has had a significant impact throughout the industry.

For smaller personal computer manufacturers, the problem has been how to obtain any memory chips at all. Those that normally buy through distributors have been particularly hard hit. Even when chips have been bought at lower prices,

The increased costs and prices have been particularly difficult for makers of 'clones' that sell primarily on the basis of lower prices.

The DRAM shortage has also created problems for some of the major manufacturers, however. Apple Computer, in particular, has run foul of the memory chip market by buying very large quantities of overpriced chips last summer in excess of its requirements.

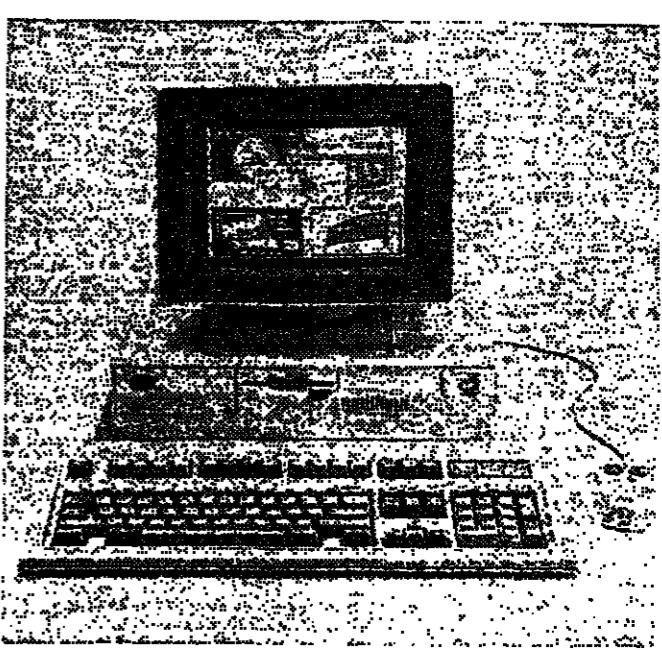
Compaq appears to have managed its memory chip pur-

chases more successfully, but the company acknowledges that its production has been limited by memory chip shortages.

IBM is in the unique position among Western personal computer manufacturers of having its own DRAM production facilities.

Britain's Amstrad has taken the lead in what is expected to become an industry trend by reaching a long term agreement with Micron Technology, the US DRAM manufacturer under which the personal computer maker has taken an equity stake in the chip-maker in return for a guaranteed portion of Micron's DRAM output.

As the confusions of new technology ease and the DRAM crisis blows over, the tables may again be turned on the biggest personal computer companies by challengers. In the meantime, however, severe competition, combined with a slowing growth trend, is expected to weed out many of the market's weaker players.



IBM's PS/2 with 8513 monitor and hardware market screen



An architectural technician, above, uses a Prime Medusa software package to plan the layout of timber-framing for a dwelling. This advanced system allows him two and three-dimensional design facilities. For designers in areas as diverse as construction and packaging, computer-aided

Aiming for the business market

TWO YEARS after entering the personal computer market with the PC 1512, Amstrad has unveiled the PC 2000 series — a range of 24 machines aimed directly at the business market and designed to increase Amstrad's position in the European computer market.

Mr Alan Sugar, Amstrad chairman, says that the company is "moving its PC business into overdrive with the introduction of the PC 2000 series — a comprehensive range of highly specified and powerful business-oriented computers, to be marketed worldwide at prices that will rock the competition — and,

we believe have a radical effect on the size of the market."

As part of Amstrad's expansion plans for the corporate market, the company has restructured its dealer and distribution networks.

Amstrad's pre-tax profits for the six months to the end of 1988 fell 16 per cent to £75m. Turnover dipped slightly to £240m (£251m). But for a series of supply problems, particularly the worldwide shortage of memory chips, Amstrad estimates its sales would have been £114m higher and its profits above \$100m.

The PC2000, pictured left, is one of the Amstrad PC 2000 series, sold in 12 configurations spanning the £398 (plus VAT) to £1,348 (plus VAT) bracket.

Alan Cane reports on the PC architecture debate

The power of standards

A NEW design of personal computer system, able to exploit the full power of the latest generation of the most popular microprocessors while retaining the capacity to run all the software written for current personal computer designs, is expected from a number of manufacturers in the second half of this year.

Their intention will be to establish the new design as a common standard for the whole computer industry. They may, however, be too late to prevent International Business Machines (IBM) establishing its own proprietary design as the de facto world standard.

IBM's design is called Micro Channel Architecture (MCA); the world's leading personal computer manufacturer introduced it two years ago when it launched a new range of advanced personal computers, the Personal System/2.

Towards the end of last year, it was claiming sales of upwards of three million PS/2 systems, sixty per cent of them fitted with the new, Micro Channel Architecture.

The opposition, which includes the US companies, AST, Compaq and Hewlett Packard and the Japanese manufacturers, Epson and NEC, have developed a design they called Extended Industry Standard Architecture (EISA). Work on the detailed design began in 1988 and EISA chips have been developed, initially by Intel. The first products containing these chips will be delivered in late 1989.

The MCA/EISA battle has the hallmarks of a classic computer industry technology squabble, illustrating the power of standards and the importance to any company of controlling standards development.

to use their machines in new ways while retaining compatibility with software written for the original PC, some 15m of which are now in use worldwide.

MCA also gave it a weapon that the 'clone' manufacturers who had used the easily copied design of the original PC to eat into IBM's market share. Others could copy MCA, IBM said, but only by paying copyright fees — one per cent of sales revenue for a single patent up to five per cent for the complete set.

At this stage, IBM's competitors cried 'foul' — not only was IBM, through its marketing muscle, going to force them to pay through the nose to follow a standard that it controlled, but there was no certainty that MCA was what their customers really wanted.

They argued that IBM has not solved the problem of compatibility with the earlier standard, Compaq Computer, for example, whose market research is legendary, says there is limited demand for products based on MCA — the primary reason that much of the market is avoiding MCA's lack of compatibility with boards for the industry standard architecture.

Mr Rod Canion, Compaq's chief executive, thinks MCA is over-rated, technologically, pointing to the speed and power improvements Compaq has been able to achieve by fine tuning the existing architecture.

"Our biggest innovation," he says, "has been our 'Flex' designs which has enabled us to push the performance of an 80386-based computer, using industry standard architecture beyond that of IBM's MCA design. That has been a critical factor in launching Compaq

out into the forefront of the PC industry as a leader, rather than just a strong player".

But everybody agrees that a new architecture is needed to take advantage of 32-bit technology and Compaq has taken the lead in establishing a group of companies to work together on the EISA concept, basically a method of shoehorning 32-bit data pathways into industry standard designs, getting the best of both worlds.

The EISA group's problem is that MCA is here and now while EISA is still some months off.

Already there are defections. This month Olivetti, the Italian computer manufacturer, which has been a founder-member of the EISA group, announced it was launching two machines incorporating MCA.

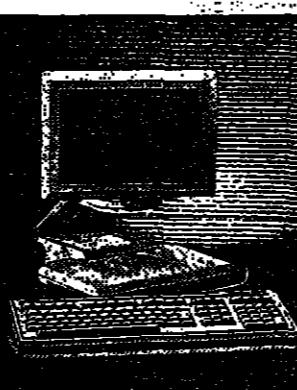
Apriicot Computer, the UK manufacturer, launched MCA machines last year, its chips being reverse engineered by the US semiconductor company, Chips & Technologies. Problems with the chips contributed to an anticipated sharp fall in Apriicot's profits for the year.

The market will eventually decide whether it prefers IBM's revolutionary MCA approach or the evolutionary EISA initiative supported by Compaq and its allies.

There is no certainty which way the battle will go, but Compaq's market research says it is on the right track — "there is no doubt of it," Mr. Canion confirms. "We would not take a chance on something like EISA."

But industry standards, rather than any one standard, are important and "if MCA becomes the industry standard, we will build MCA machines," he promises.

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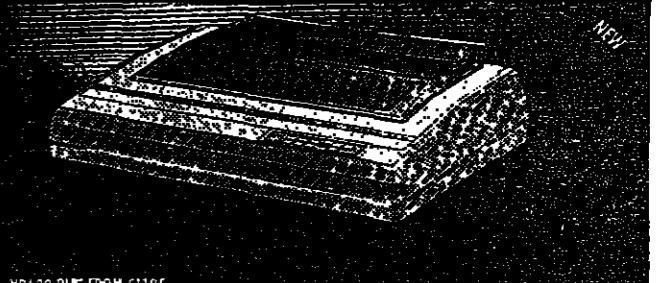
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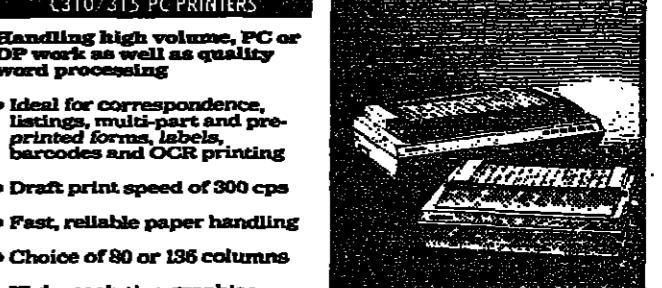
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THE COMPUTER INDUSTRY 8

WHICH COMPANY is the world's largest supplier of computer software and services?

The answer is IBM — also, of course, the largest hardware manufacturer. In 1987, the most recent year for which full figures are available, IBM's revenue from computer programs was \$6.8bn, far ahead of any specialist software company. (In addition, the company made \$1bn from maintenance and other services.)

IBM's software revenues rose by 64 per cent over the two years from 1985 to 1987, a growth rate that would be impressive for a nimble young company, let alone the giant of the industry. During the same period IBM struggled to increase its hardware sales by a meagre six per cent.

In the early years of the computer industry, manufacturers had supplied all the required software "free" with their machines. But IBM realised in the late 1960s that software could become a golden stream of new revenue, and it started to charge separately for hardware and software. By doing so, it gave birth to the independent software industry, giving other companies a chance to supply programs for IBM computers more efficiently than IBM itself.

Worldwide software sales now exceed \$100bn a year, according to Dataquest, the US market research company. And

Clive Cookson looks at a golden stream of revenue for hardware suppliers

Software sales top \$100bn a year



IBM's revenues from computer programs are far ahead of any specialist software company

they are likely to rise by more than 20 per cent per year for the foreseeable future.

In the highly fragmented world software market, the best organised players on the international stage are the large computer manufacturers, as Apollo and Sun have shown in workstation manufacturing

and Compaq has shown in portable and IBM-compatible personal computers over the last five years.

"There is still scope for very fast revenue growth in certain types of hardware, of course, as Apollo and Sun have shown in workstation manufacturing

the Instruction Set, a UK software consultancy. "There will be more open competition between manufacturers, who will no longer be protected by proprietary operating systems, and this will bring a furious rate of innovation with extremely short product lifetimes — no more than six months."

Probably the most significant current development in the computer industry — with immense implications for the relationship between hardware and software suppliers — is the move towards open systems and in particular towards Unix as a common operating system, (as discussed elsewhere in this survey).

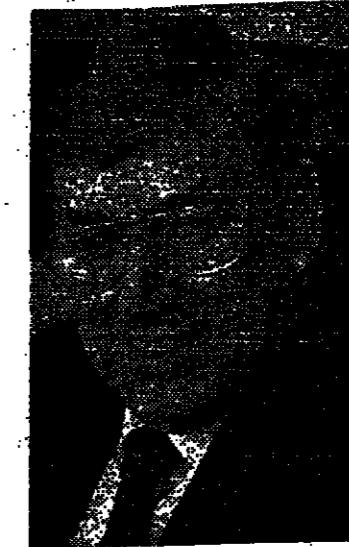
The aim of open systems is to enable users to run the same applications software on any computer with sufficient processing power and memory, and to transfer information freely between computers.

Although this ideal is still a long way from reality in many fields of computing, such as commercial mainframes, medium-sized computers running Unix already give a glimpse of the future of the industry.

"The effect of standardisation is to create a commodity market for computers," says Mr Peter Griffiths, chairman of

the most powerful machines possible with current components, without worrying about expensive promotion of a brand image. Their products are not normally sold directly to end users but marketed by third-party suppliers who put their own names on the boxes.

Although the first wave of "hot boxes" are mostly American, Mr Favre expects powerful Unix computers made in Taiwan and Korea to flood the market within the next two years.



Mr A.B. Cleaver, chief executive, IBM UK. Software sales rose by 64 per cent for IBM worldwide in the two years from 1985 to 1987.

The overall effect of open systems will be to accelerate the shift in emphasis from hardware to software. But manufacturers need not feel

too dismayed about this, if they can persuade users to treat their computers as consumables rather than as major pieces of capital equipment.

As technological progress and the increased competition brought about by open systems combine to drive down the real cost of hardware, it will make sense for users to replace their computers more frequently.

The value of the information held on most corporate computers already far exceeds the value of the hardware itself — and this disparity is increasing rapidly. Many users, however, do not realise how much better they could exploit the intrinsic value of their computer information by processing it on up-to-date hardware rather than on a less powerful system bought five or ten years ago.

For independent software producers, standard operating systems offer unparallelled benefits — the move to open systems will make an enormous difference to us," says Roy Sutcliffe of Thorn EMI Computer Software.

"Until now, it has required an enormous effort to port (adapt) software to a wide range of systems, so we can only rejoice at the prospect of operating on a much narrower front."

The key area where the majors will stay strong is network management. It is essentially software that helps more efficient allocation of resources and can pinpoint bottlenecks.

However, while the technical side of the Lan is becoming well understood, the marketing side is still shrouded in mystery. The low end is likely to become increasingly preoccupied with consumer-style marketing, while the rest of the sector will pour itself into the familiar mould of corporate computing.

Even there, the way forward is unclear. Few corporate buyers justify the price of a Lan in terms of increased profits or rapid cost saving. Nor is the buying decision usually driven by the need to solve a specified problem.

"Buying a Lan is still a qualitative decision," says Mr Evans, "based just on faith, sometimes."

**Local Area Network Markets in Europe, Logica's Telematica Service, December 1988.*

LOCAL AREA NETWORKS

Wedge bringing a divide in the market

conformance with international technical standards.

A wedge is being driven into this split in the market by variations in the way Lans are used. They were once for sharing expensive resources. Five years ago, it made sense to buy a \$5,000 laser printer, for example, if it could be used by several PCs, which themselves cost £3,500, on a Lan also costing thousands of pounds.

This year it is possible to buy a laser printer for under £1,000 — and the buyers of 2500 for each of the next five years.

Nevertheless, suppliers and users are about to face a new factor: the partition of the market.

As the personal computer becomes, to some, a consumer item, the local area network is finding new buyers outside the domain of the computer expert. There is a new generation of personal computer users which has bought off-the-shelf PCs from mass-marketers such as Amstrad, the UK-based consumer durables group.

Larger computer users, on the other hand, are seeking faster transmission speeds and

exchange documents, send each other messages, have access to a central database, and so on.

"A communications ethic is taking over," said Mr Tony Rixon, Director of The Networking Centre, a UK government funded business advice unit.

Mr Paul Evans, UK marketing director of Digital Equipment, agrees. "The personal computer was a backlash against the centralised mainframe approach."

Data processing managers are seizing the opportunity to link together scattered communities of PCs with a local area network, says Daniel Green

PCs want cheap Lans to make the connection.

At the other end of the scale, whole companies have undergone the personal computer revolution. The data processing manager is seizing the opportunity to tie together the scattered communities of PC users with a Lan. The users want the change, too. As well as sharing hardware, they can

take advantage of the desire for communication that all corporate PCs are potentially part of a Lan. Mr Evans says that "at most 13 per cent of personal computers are on Lans and growth in PC Lans is about 60 per cent a year."

Such growth figures must be taken with a pinch of salt. Manufacturers and market researchers differ widely over

the scale of growth they predict. This is partly a symptom of uncertainty over what devices to include within the forecasts. The key three categories are:

■ Low speed. The original Lans; little conformance to international standards. Low price, but inflexible. Amstrad's four-node Lan sells for £399.

■ Medium speed. The main growth area for the last 12 months and the next five years. It includes the key ethernet and token ring international standards.

■ High speed. Products still under development or produced in small quantities for industrial environments, including optical fibres. Significant growth is not expected until mid-1990s.

One of the spurts to Lan growth is the establishment of

existing investment in computers.

Not even IBM can resist — the vast majority of buyers have mixed vendor equipment.

"The US standards IEEE has specified three standards for LANS: little conformance to international standards. The first and the last are the most important in terms of backing and support among influential customers. They also precisely describe the Lan products most associated with DEC and IBM respectively.

International standards are supplanting the key role of government procurement policies in specifying which manufacturer will have a technical standard in the private sector.

European Commission directive 87/85 requires that all pub-

lic procurement within the EC of a value over 100,000 ecus shall be specified to meet European standards where possible and international standards where not. In practice, this means choosing either 802.3 ethernet-type or 802.5 token ring.

For giants such as IBM and DEC, standards are a double-edged sword. If you cannot lock your customers into your own products, they may turn to independent suppliers.

"Token Ring is generally supplied by IBM but I think we will see changes in that," says Mr Rixon. "There are already many suppliers of ethernet-standard equipment apart from DEC."

Some independents are already well-established and two stand out as giants in their

own right: Novell and 3Com. These two have embarked on a battle for customers who want to link the newish range of IBM personal computers, the PS/2s.

Technical advances are one way to secure market share. In November IBM, for example, launched a quadruple-speed version of its 802.5 product.

Versions of ethernet using cheap cabling and even optical fibres have been released by Dec and other companies.

The "drive for standards" allow low-margin mass manufacturers in and will encourage a greater reliance on software on the part of the established majors.

"Some hardware components have already reached the stage of commodity items," says Mr Evans.

Problems for computer storage manufacturers

A chastened sector

FOLLOWING a traumatic year in the disk-drive market, computer storage manufacturers will enter 1989 an older and wiser breed. Many will write off 1988 as the year when they grossly miscalculated.

Following the boom year of 1987, when they sold 10m disk drives, manufacturers built up the capacity to make 17m of them in 1988. Many companies borrowed heavily to do that.

In the event, there was an over-production of 3m units, which resulted in increased competition, falling prices and wobbly finances.

To predict such a rosy market, storage manufacturers were relying on the fact that every time a company buys a new computer system, that is only the beginning of the sale.

On average, companies upgrade their computer storage systems by between 30 and 50 per cent a year, a boon on top of a healthy market in first time buyers.

Chastened by their wild miscalculations, manufacturers are making far more conservative forecasts for 1989, as are many analysts. One of the least optimistic predictions comes from US market analysts Dataquest of San Jose.

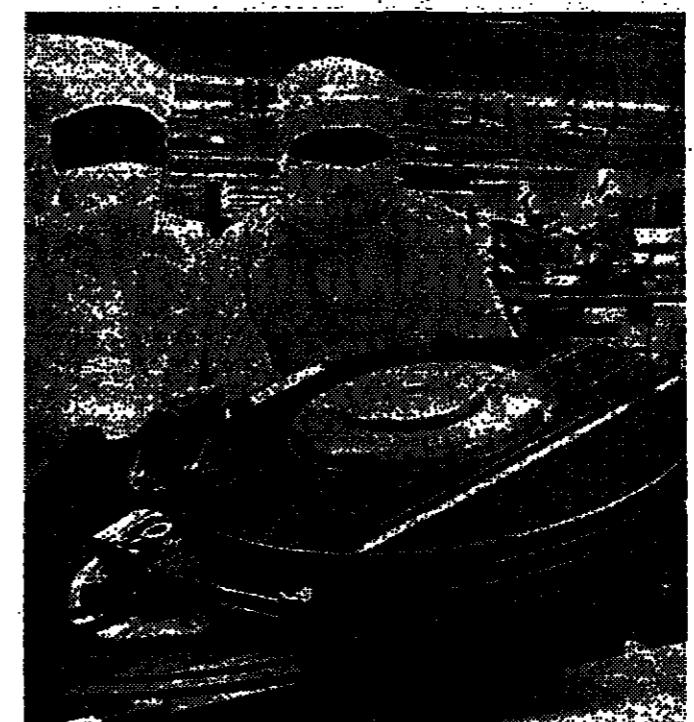
Phil Devin, senior industry analyst there, calculates that the growth in disk drive sales will be only 17 per cent this year.

The main reason for such low figures is that low sales in 1988 has resulted in many retail outlets still holding last year's stock.

However, disk makers are putting on a show of cautious optimism. They argue that the basic changes in the market on which they made the 1988 predictions still hold true, even if they were over-optimistic about the timing. They believe changes in the way companies are beginning to use computers will increase the demand for peripheral storage devices across the board, from mainframes to personal computers, GCO.

To begin with, there is a growing demand for real-time database systems, which mean mainframes need huge on-line storage capacity. At the other end of the chain, many offices have clusters of PCs which get data from the mainframe and then store and process it locally, so needing local storage systems.

The biggest beneficiary of any market growth will be computer manufacturer IBM. It dominates the market for disk drives, and sold nearly \$7bn worth in 1987, according to the 1988 DiskTrend Report. Its main rival was Fujitsu, the Japanese computer and periph-



Production of IBM 3335 disk storage systems at Havant, Hampshire. IBM is increasing its dominance in the market

er manufacturer, which sold a comparatively meagre \$1.5bn worth.

With just over \$1bn of sales, Seagate topped the table of dedicated disk drive makers which sell their products on to other manufacturers.

In the past year, IBM has increased its dominance. During 1988 it produced nearly 2m 3½-inch disk drives in Japan for its PS/2 machines, and began selling disks onto the merchant market — in the past it has been a purchaser, rather than a supplier of disk drives.

Hewlett-Packard followed suit and is also now producing its own disk drives. None of which is good news for the already beleaguered independent disk drive manufacturers.

For the disk drive customer, the choice is still between two technologies: magnetic and optical media. The different applications of the two media used to be clear cut, with magnetic tape popular for on-line storage because it was cheap and had fast access times, and optical disks favoured for archiving because of their long shelf-life and high capacity. In particular, magnetic storage devices could be written on and read, whereas optical disks could not be changed.

However, developments in both the technologies now mean the decision about what to buy is becoming more and more difficult, explains Peter

Scott, a consultant with Arthur D. Little.

"It's a very interesting time because the technologies are running neck-and-neck," says Scott. "A year ago, people would have said optical storage was great for archiving, but not for on-line storage because you couldn't write on it. Now you have the Worm systems and erasable systems in response to that."

The market for Worm optical disk drives — drives which write information once on the optical medium but can read it many times — is growing rapidly, according to Dataquest. In 1987 the world market was worth \$23m, but that is expected to rise to \$65m in 1988.

But even faster growth is expected of erasable optical disk drives — drives that can write, read then re-write data onto an optical disk. Although

Top-end PCs with 20-40 Mbytes of storage will be superseded by systems with 50 Mbytes or even 100 Mbytes when used for applications such as modelling or stock control. Net-work PC users are already beginning to demand 750 Mbytes of storage and later this year 750 Mbytes systems could appear.

One reason for the demand is the market growth in PCs which can handle colour graphics and imaging, and so need greater storage capacity. Joe Jura, product manager for storage products in the European division of Fujitsu, is optimistic that PC purchasers will increasingly require higher capacity storage devices.

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At the top end of the magnetic storage market, cartridge tapes look set to continue their market takeover from the traditional reel-to-reel systems. There, too, IBM is increasing its dominance. That was confirmed last month when Digital Equipment, the second largest US computer manufacturer, announced its cartridge tape system for use with clusters of Vax computers, which is IBM 3490 compatible.

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THE COMPUTER INDUSTRY 9

Della Bradshaw reports on the market tussle between dot matrix and laser technologies

Printers: a thorny issue for suppliers and users

OVER THE past two years, computer printers have become a thorny issue, not just for the European and Japanese manufacturers, locked in anti-dumping disputes, but for business users as well.

With the widespread introduction of personal computers in the office and moves to take commercial computing out of the hallowed data processing room and distributed to the building's attorney, attention has begun to focus on the office printer. Companies are now having to decide whether to replace the noisy impact printers, particularly the ubiquitous dot matrix models, with the quieter but more expensive laser printers, which can be shared by a number of computer users on one network.

In terms of unit shipments, the lower priced dot matrix printers – which generally cost a few hundred pounds and are sold with most personal computers – still take over 70 per cent of the market. In 1988, more than 10 million dot matrix printers were sold worldwide, according to market analysts Datatequest of San Jose, California. They predict that figure will rise to over 12m units in 1989.

The dot matrix printer market is dominated by Japanese manufacturers, such as Epson, Brother Industries, NEC and Fujitsu. But European manufacturers, such as Olivetti, Philips and B&W IBM Information Systems' formerly Honeywell, are now confident that the dumping levels against them from Japanese manufacturers have been reduced enough to bring them back to the European market.

While European and Japanese manufacturers have been fighting hard in the legal arena, dot matrix and laser technologies have been fighting it out in the marketplace. For office environments,

NEW COMPUTER equipment generally tends to work reliably for at least five years – but longevity is not necessarily the most significant factor in the purchasing behaviour of computer users.

It is quite commonplace for a data processing manager (the DPM) to find that a machine, bought two or three years back which they offered the best price/performance deal, but now provides computing power relatively more expensively than a newly announced model.

Furthermore, the DPM may often feel that his machine is becoming an increasingly 'tight fit' after two or three years of increasing demands for more services from user departments. The ideal situation would allow him to sell the remaining life of that machine at the same price as he is currently paying.

IBM mainframes are readily marketable at any time during their first five years and even

computers – still take over 70 per cent of the market. In 1988, more than 10 million dot matrix printers were sold worldwide, according to market analysts Datatequest of San Jose, California. They predict that figure will rise to over 12m units in 1989.

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While European and Japanese manufacturers have been fighting hard in the legal arena, dot matrix and laser technologies have been fighting it out in the marketplace. For office environments,

laser printers are slowly taking over from dot matrix printers because they are quieter, give a better quality print and are faster. The top-end laser printers, for example, can print 20 pages of documents a minute.

Although expensive, laser printers are rapidly coming down in price, and can now cost as little as £2,600.

Datatequest predicts the market for laser printers, which was worth only \$4.4bn in 1987, will be worth almost \$8bn this year, almost equaling the market for dot matrix printers which will be worth \$8.7bn.

The recent upsurge in laser printers has been good news for electronics manufacturer Hewlett-Packard, which claims to have 40 per cent of the laser printer market.

While European and Japanese manufacturers have been fighting hard in the legal arena, dot matrix and laser technologies have been fighting it out in the marketplace. For office environments,

division of Bull Italia, believes the dot matrix printer is sophisticated enough to hold its own against the laser printer.

'Dot matrix as a technology has a lot of capabilities,' says Mr Bentigvillo. 'It's a question of improving the phases and decreasing the minutes.'

According to Bentigvillo on the plus side there is the low cost, high speed, robustness and capability of making a number of carbon copies as non-impact printers such as laser printers cannot do that.

On the minus side he lists the noise, which he says is being reduced all the time – and the print quality.

Up to 80 per cent of the dot matrix printers sold are still the bottom-end nine pin models, which use nine pin heads to print each character. They are sold with the low-end PC's and give a relatively poor quality type. However, the superior

24-pin version is rapidly taking market share away from its cheaper cousin.

As a wider range of 48 pin dot matrix printers come onto the market during this year, they could also瓜away at the lower end products.

Daisy-wheel impact printers, which used to dominate the market for cheap printers with a high quality type face, are now also losing market share to the better quality dot matrix printers.

Both dot matrix and laser printers, which will dominate the computer printer market for the foreseeable future, are becoming more sophisticated in the features they offer, and in particular are now responding to some of the problems faced by office computer users.

Many of the latest dot matrix printers can be fed with single sheet or continuous stationery at the same time, allowing users to switch automatically

from headed notepaper to computer printout.

Hewlett-Packard now sells laser printers that print on both sides of the paper, and can bind documents along either the long or short edge. Nicky Ayre, product marketing manager for printers in Hewlett-Packard's UK operations, says the printers are ideal for newsletters or technical documentation.

One of the most significant advances in laser printers came last month, with the endorsement by IBM of the PostScript software language developed by Adobe Systems of California. PostScript was developed to give better text and graphics reproduction and also to allow any computer to work automatically with any laser printer – at the moment every time a document is printed, the computer has to be

told what brand and model printer is being used.

With IBM, Digital Equipment, NEC, Wang, NeXT, Hewlett-Packard, Fujitsu and Apple Computer (which owns 19 per cent of Adobe) among the list of companies incorporating the software in their products, PostScript now looks certain to become a de facto standard.

Although the printer market is dominated by two technologies, a third ink-jet printing, is poised to eat into their market share this year, following the development of ink-jet printers which can print plain rather than specially-inked paper. Market leaders in ink-jet technology are Hewlett-Packard, Canon and Epson.

Ink-jet printers work by shooting jets of ink at the paper. Low-end models have between 10 and 12 nozzles, which give 180 dots per inch,

while top-end models give up to 300 dots per inch.

Although ink-jet printers are quiet and cheaper than laser printers – they cost about £200 – they can still only print one copy at a time. In addition they are slow, printing only about two pages a minute, about a quarter of the capacity of the cheapest laser printers.

However, ink-jet technology is likely to come into its own as a way of printing colour. As colour business graphics become the accepted norm on personal computers, the demand for colour ink-jet printers, which combine four different ink colours together to give over 300 colour combinations, is increasing. Ms Ayre of Hewlett-Packard reports that the market for such colour printers at the moment is very small – "but the interest is amazing!"

yet. One needs a banking-type partner to make it work and to underwrite such structures," he says.

MBA computers, which specialises in smaller computer systems, even goes so far as to use the term 'instrument' to describe the way its financial deals are written.

"All leases are written in much the same way, and there is always an element of choice in who the lessor decides to do business with," explains Mr Perry Burns, director of MBA Computers.

If the trend is towards a smaller number of large players, residual risk has to be better managed. If it works properly, securitisation will shift some risk away from the leasing companies and towards providers of funds with a sense of adventure.

Boris Sedacca

COMPUTER LEASING

Lucrative business for the big players

beyond, although maintenance costs begin to outweigh the machines' utility value.

In the days when IBM offered rentals, this service did not come cheaply, but at least things were relatively straightforward for the user. However, it meant that IBM itself had to take a position on residual values for the equipment on its books, and this could impinge on its flexibility when it came to pricing new equipment.

Traditionally, when users opted for outright purchase instead of rental, a lease could be signed to finance the use of the computer over its useful five-year life. Typically, a conventional financial lease, written in the same way as a lease for any other piece of

office equipment – or for vehicles.

If they wanted to dispose of the machine before the end of the lease term, they would have to play the market for residual values. Then a number of specialist computer leasing companies began to take responsibility for residual values, effectively setting themselves up in the rentals business.

These companies offer a so-called 'operating lease' as an alternative to the financial lease, which for a premium element on top of regular repayments, allows the user (or lessee) to return the machine before the end of its useful life.

The operating lessors have also served to accelerate the

pace of bankruptcies, takeovers and consolidations in some parts of the sector.

"IBM's entry into leasing baffles me," comments Mr Stephen Hamilton, senior vice president for European marketing at Comdisco, previously the world's largest lessor of IBM equipment, and now number two.

Operating lessors have taken the lion's share of the computer leasing business

"I cannot see why it could possibly be interested in residual values, except to exert control over users who might otherwise be tempted to defect to other manufacturers."

Users typically fall within three distinct categories, according to Mr Hamilton – 'leading-edge, competitive-edge and trailing-edge.'

With leading-edge users, processing volumes is what counts here and they have to have the latest technology and/or largest machine available at the time.

Competitive-edge users are not necessarily interested in the latest technology – they just want maximum performance for a given expenditure. They would, for

example, be in the market for an IBM 3090/200 mainframe which sold for \$5m in 1985 or 1986, and which was now being offered for \$2m.

Trailing-edge users will probably settle, for example, for an IBM 3034 at \$500,000, which will have sold for \$3m in 1984.

Atlantic Computers, pioneer

of the concept of flexible leasing, is less sanguine about IBM's muscle in to the leasing market.

The company joined forces with IBL and Econocom, and took IBM to court in Holland in 1986, claiming that it was monopolising the market and working against the European Community's competition policy, but then decided to settle amicably instead.

"We found that we could not compete with IBM on price in Holland because they were able to take the theoretical maximum advantage of the Dutch tax system at 23 percent while the best we could get was 17 percent," says Mr David McCormick, chief executive of Atlantic.

"Atlantic is a well-managed company, but since 1986 when IBM came on the scene, our growth rate has slowed down from 80 per cent compound a year to about 25 per cent" – still an impressive growth rate by most standards.

One interesting new development sweeping through the leasing market is 'securitisation'. Atlantic became part of the British & Commonwealth group, a large financial services company, in September last year, but is remaining tight-lipped about any future plans to do with securitisation.

Mr Ian Orrock, chairman of Meridian, is less sanguine about IBM's muscle in to the leasing market.

"I am aware of securitisation

and I have a good understanding of how it works in the US, but it is early days

in the UK," he says.

Ian Orrock, chairman of Meridian, a leading computer leasing and services company: aware of the potential of securitisation.

Computer maintenance sector boosted by micro revolution

Influx of new services

COSTUMER MAINTENANCE is often described as the Cinderella of the industry. Although it has relatively little glamour, it is a growing sector with substantial earnings.

Quoted maintenance companies usually show high profit margins ratios. Once a contract is won, there may be some fallout, but repeat business is frequent.

The UK third party computer maintenance business (TPM) totalled £105m in 1985, and will grow at an average annual rate of 20 per cent to reach £210m in 1991, according to Mr Robert Brittain, chairman of the Computing Services Association's third party maintenance special interest group and managing director of Advanced Technology Maintenance.

The rise of mixed-vendor computer installations is one of the most important factors in the growing attractiveness of third party maintenance, as users become more sophisticated and better able to put together their own maintenance strategies.

A major factor in the growth of TPM market was the meteoric rise of the business PC. When machines such as the Apple and the Sirius (now defunct) first appeared in the early 1980s, the companies selling those products had no back-up service organisation at all, so the micro revolution involved a flood of new maintenance companies on to the TPM market.

According to Mr Brittain, the main area of opportunity lies in personal computers and peripherals, and that only about five percent of TPM companies offer mainframe maintenance and less than half of them minicomputer maintenance.

Generally, their charges are lower than the manufacturers' own services – "the main reason for this is that they do not have to fund large research and development organisations – and their overheads are lower since they do not require an extensive network of sales offices," he says.

The use of corporate PCs and the islands of information they create has generated increasing demand for communications.

Communications and networking pose very specific problems as they converge with traditional data processing disciplines – "networks are far more difficult to fault find than mainframes, where diagnostics routines will have been well established," suggests Mr Maurice O'Brien, managing director of Computeraid Services, part of Thorn EMI.

"Trying to find out what has happened to something which has been put in at one end of a network and does not reappear at the other, nodes down, as required, is a lot more difficult

than tracing a fault within one manufacturer's system."

Some manufacturers object that "third party maintenance suppliers are only creaming off the most profitable part of the support operation, and not providing the other sorts of help and guidance which the manufacturer can give."

IBM is generally regarded as one of the 'good guys' of the industry, when it comes to providing independent third party maintenance companies. Other mainframe manufacturers have a mixed record and cases are always coming to light of some legal issues.

It is not surprising that manufacturers should want to hold on to their maintenance revenues. Some try to do it by locking in users and locking out TPM services. Others also try to do it by keeping ahead of the game, technologically.

For example, 20 percent of Tandem's \$1.5bn turnover last year came from post-sales services, a large proportion of which included areas such as education and training.

Tandem may appear to be coy about giving an exact percentage figure to maintenance, but the picture is becoming increasingly blurred over the years as manufacturers move towards remote diagnostics over telecommunications links to customer machines.

Remote maintenance centres such as Tandem's Online

network planning, integration and installation.

Maintenance companies have an ambivalent relationship with the manufacturers. Manufacturers quickly forget old kit. Their prime motivation is to achieve a sale.

They may discontinue this support once they consider the product obsolete. An independent maintenance company, relying solely on revenue from continuing support, will wish to extend that period for as long as possible.

Some manufacturers object that "third party maintenance suppliers are only creaming off the most profitable part of the support operation, and not providing the other sorts of help and guidance which the manufacturer can give."

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customer support, and

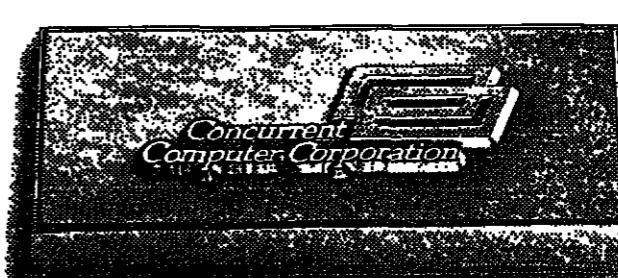
education and training.

Boris Sedacca



Most major computer manufacturers have maintenance programs built into systems.

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THE COMPUTER INDUSTRY 10

Alan Cane compares the fortunes of two contrasting players in the computer industry: Compaq and Wang

Year of record revenues

COMPAQ COMPUTER Corporation's financial achievements would be themselves enough to distinguish the seven-year-old Houston, Texas, personal computer manufacturer from other high flyers in its merciful industry.

Earlier this month, it announced record revenues of \$2.1bn for 1988, a 25 per cent increase over the 1987 figure of \$1.2bn. Pretax profit is \$365m compared with \$225m in 1987.

Its previous records include revenues of \$111m in 1983, its first full year of operations, and making the "Fortune" magazine's Top 500 list faster than any company in history.

The only question seems to be: how long can it maintain such a hectic pace? Inevitably, not for long. Analysts are predicting revenue growth of only 30 per cent in 1989 and Compaq management claims to be happy with that figure.

Technologically, it is no slouch. In 1986, it was one of the first companies to introduce a personal computer based on Intel's most powerful microprocessor chip, the 80/386. Three years on, it claims to have 50 per cent of the market for these high performance machines, keeping, among others, International Business Machines at bay.

Its success, nevertheless, raises a number of interesting questions apart from its durability. Its machines – portables, desk tops and, since the middle of last year, battery operated laptops – are clearly first rate, but have none of the glamour of an Apple Macintosh or cost advantages of a Zenith.

It does not deal directly with its customers and it has no ambitions to become a systems integrator, the path so many other, less successful computer vendors are trying to follow. As one competitor remarked: "Compaq is the bricklayer of the computer industry. It manufactures the bricks that others build into complete systems."

The company was founded by three engineers from Texas Instruments, Rod Canion, now president and chief executive officer, William Murto, who left some months ago to devote himself to religion, and James Harris, now vice-president for engineering.

All three had substantial experience of business and technology and therein lies at least one clue to their success. It was probably the most professional team ever to start up an independent personal computer company. There was none of the enthusiast or hobbyist culture which permeated other successful start-ups like Apple.

Canion says: "We were not a classic garage start-up. We started out as businessmen from a big company with some new ideas about how to do things but very much founded on good business principles. So Compaq takes few risks."

New record for IBM

GROUP TURNOVER for IBM (UK) for the year ended December 31, 1988, was £3.87bn, an increase of 11 per cent on 1987 – and a new record.

Home revenue improved by six per cent to £1.73bn, while exports of goods and services improved by 17 per cent to £2.14bn.

Commenting on the results, Mr Tony Cleaver, chief executive, says: "In 1988 we met all our objectives and recorded the 38th successive year of revenue growth in the UK."

"Market demand was strong across all areas of the business, especially for software."

Profit after tax was £277m, a five per cent increase on the 1987 figure of £211m.

IBM (UK) has 18,686 employees.

Worldwide revenues for IBM in 1988 amounted to £59.68bn, with net earnings of \$5.81bn.

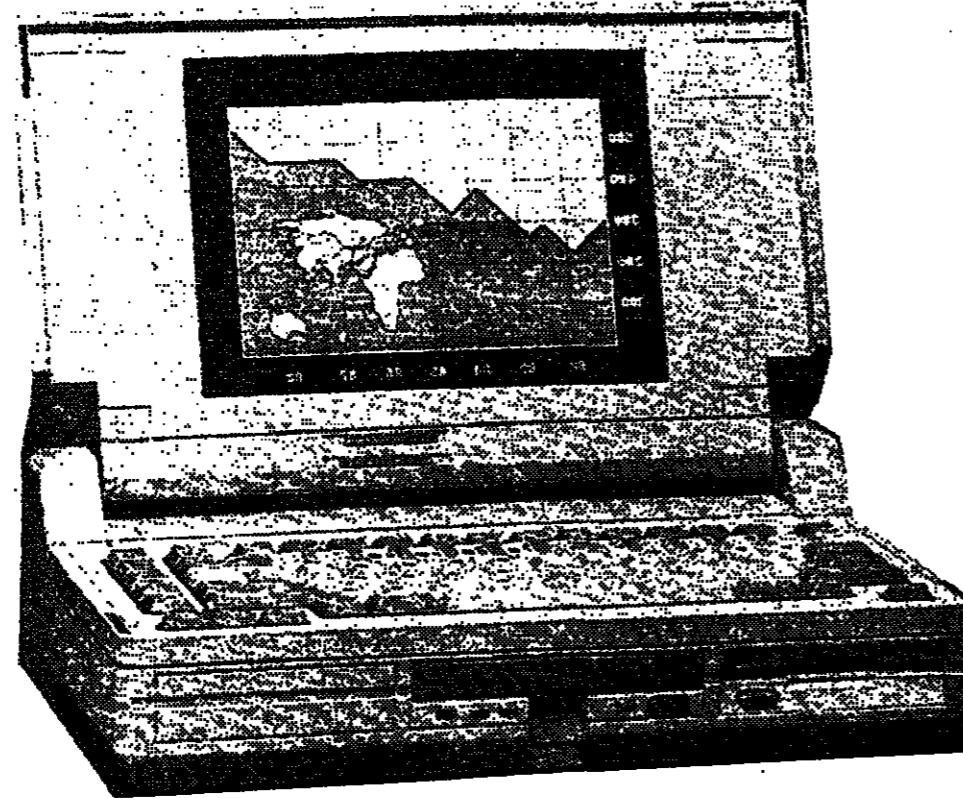
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The rise of local area networks

THE INSTALLED base of local area networks (LANs) in Western Europe will grow from 91,400 at the beginning of 1988 to 586,000 by the start of 1993 – at an average annual growth rate of 36 per cent, according to latest Telematica report from Logica.

This image of strong growth is diluted, however, by predictions that the value total of LAN shipments (\$417m in 1988) will show only a 17 per cent growth rate through to 1993. The maturing of the market is attracting many suppliers and is forcing average prices down by around 15 per cent a year.

LAN manufacturers are polarising between suppliers of hardware – in particular, the adaptor cards – and of software, which provides the operation control of the network, says the report.



Compaq's new lap-top PC, the SLT/256, "has the power of a desktop machine".

and improves the existing rather than pioneering the new. It spends less than half the industry average on research and development. Last year, it spent \$75m on research and development compared with the \$250m invested by Wang, a company only half as big again, and the \$5bn or so invested by IBM.

Instead, it gets powerful leverage from its use of standards, dealers and software companies. These are popular techniques in the PC business but Compaq uses them with special flair.

It distributes its machines only through dealers. While other manufacturers are content to let their own direct sales force fight for sales in competition with their dealers, Compaq builds bonds of mutual trust which are reinforced with each successive product launch.

The strategy is strengthened by the quality of computers the company builds. Compaq builds compatible PCs, not clones. Its machines behave like IBM's own (only somewhat faster) and are not slavish copies. The internal circuitry is Compaq's own design.

Dealers are heartened by the fact that Compaq is not selling against them, that they may make a good margin on the products and that they never have to apologise for deficiencies in the hardware.

Furthermore, Compaq sets up extensive and continuous market studies to establish what their customers really want.

High supply is restricting margins on the hardware and the only volume suppliers will survive in this segment, it predicts. For more details, see Page 8: Wedge bringing a divide in the market.

□ □ □

'Revolutionary' library system

VISITORS to Edinburgh City Libraries will be the first in the UK to benefit from a fully-integrated computerised library system, built around the latest IBM technology and specially-designed application software.

The information system, designed to take the library service into the 1990s, will run on the IBM AS/400, with software supplied – known as 'Book' – by the IBM agent, Lychgate.

The software was developed in Australia and is now widely used there, as well as in New Zealand and Hong Kong. The system helps to perform all the routine tasks of librarians – from issuing books to consulting catalogues, as a fully automated function. IBM – which sees the development as "a milestone for the entire library service."

Larger models of the AS/400 mid-range computer, launched in June last year, have the power and capability of sizeable mainframes.

□ □ □

Exhibitions and conferences

THE Which Computer? Show is being held this week at the National Exhibition Centre, near Birmingham, until 4pm on Friday, February 24.

Among the forthcoming exhibitions and conferences for the computer industry in the UK are:

□ DEXPO Europe 88 at London Olympia: February 28 to March 2, 1989 – this is the seventh European DEC-Compatible Exhibition, which is attracting more than 60 exhibitors, including a strong contingent of companies from the US.

Apple Computer (UK) is

Alan Cane compares the fortunes of two contrasting players in the computer industry: Compaq and Wang

An improving picture

WANG, the US minicomputer company whose powerful growth through the late 1970s and early 1980s, was based on words processed by computer, is hoping that images processed by computer will retrieve its fortunes in the 1990s.

If the market is ready for its approach to capturing, manipulating, transmitting, storing and retrieving images, its future growth, senior managers say, will top 25 per cent a year, close to its average over the past two decades. If not, it will be hard pressed to grow at more than eight or ten per cent a year.

With revenues in 1988 of over \$3bn for the first time, Wang, based at Lowell, Massachusetts, has been one of the world's major computer companies for a long time, yet its performance since 1984 has been decidedly patchy.

In 1987 it made a loss, some \$70m on a turnover of \$1.25bn, the first in its 33 years existence. It made a profit of \$92.5m in 1988, but over the first six months of the current financial year, its revenue was unchanged from the year before at \$1.45bn, while income was down 75 per cent to only \$14.1m.

It is a depressing performance for a company that one leading analyst labelled the "Orient Express of Office Automation" in the early part of the decade when it was riding the crest of the wave. Stephen McClelland wrote: "It will squeeze many competitors. This company will be a giant in the 1990s."

Well, of course, it is a giant already, but a Goliath showing clear signs of vulnerability.

It blamed its poor showing over the past six months on a four-week delay in the production of a market sector to industry leadership. It wants its vision of personal computing to prevail in a world dominated by IBM, the undisputed worldwide leader in personal computers. It is taking on the toughest opponent, but it has chosen the sharpest of weapons – industry standards.

The company is the principal force behind a move to develop an improved version of IBM's original personal computer design (or architecture) as the standard for the personal computers of the future. (See separate article in this survey on the battle of the architectures.)

Called 'Eisa' (extended industry standard architecture), it is a development which would ensure that personal computer users would be able to continue to use all their existing applications software on 80/386 machines and beyond.

The first Eisa machines should be available this year, testing Compaq's mettle as industry leader, rather than follower.

Financial analysts, however,

take a less philosophical view

of the company's progress and are pessimistic about Wang's profits recovery in the short-term.

Wang's predicament seems to be the result of a number of factors, some, but not all, of which, are common to many minicomputer companies.

It became too closely identified with office automation and, particularly, with word processing. The minicomputer market softened in the US in the mid-1980s to some extent as a result of management disillusionment with office systems. Wang geared up its production capacity in anticipation of a 40 per cent a year growth in its markets that never arrived.

Furthermore, personal computers, an area that Wang moved into only slowly, were taking on many of the word processing tasks that had previously been the preserve of Wang's minicomputer-based shared logic systems.

Wang says now that about 90 per cent of its European turnover (where it has put up a more consistent commercial performance than in the US) comes from data processing as opposed to word processing applications.

In the US, the figure is closer to 80 per cent; the company is trying to establish itself as a "systems integrator" matching hardware to software to meet the customer's needs.

Wang, in common with most minicomputer companies, realises too late how quickly the data processing world was moving to standard products and standard processor chips.

Now it points out that it is a member of all the major standards committees and is an associate member of the Open Software Foundation, an organisation attempting to create standard software based on IBM's version of the Unix operating system and a rival to Unix International which is going for the same goal with AT&T's version as starting point.

Dr Wang says its membership is pragmatic and implies no specific approval of the OSF approach: "Personally, we would rather have one Unix than two. We want to be able to continue to talk to both camps."

In a recent interview with the Financial Times he said: "This is not a major disaster for me. I remember that in 1983 we had developed an electronic typesetting machine which we marketed through an independent distributor. It was contributing 20 per cent to our annual revenues then of \$15m. Then the distributor decided to design and market his own machine, so we lost that business, but we managed to survive. That was a much bigger shock."

Wang believes the time has come for images to be processed by computer as easily as text. While it is hardly surprising the company on its "Wang Integrated Image System (WIIS)", it attached great importance to market acceptance of image processing.

"In 1976, when we announced word processing, we did \$10m



Frederick Wang, president and chief operating officer, with the Wang Freestyle personal computing system - "a major step forward" in capturing and manipulating images, he says.

in the first year," Dr. Wang says. "With image processing, I'm shooting for \$100m in the first year."

Key to his plans is a new product called "Freestyle," launched last November. Essentially it is special hardware and software that allows an ordinary personal computer to accept handwritten notes and voice messages and combine them with electronically captured pages of data. The whole package can be transmitted to another, similarly equipped, personal computer.

Handwritten notes are input using a special pen and tablet, voice annotations through a microphone and standard software.

Even if the market is ready for image processing, how long can the company defend its position? "There is no niche," Dr. Wang says, "that is too small for IBM and others to attack."

ICL's European strategy

Wider product range planned

AS THE European Commission's market integration plan looms up in 1992, ICL has staked its future on its ability to expand on the continent. The company believes that the drive to reduce trading barriers will force a shake-out in the European industry as national suppliers like itself are put under pressure by foreigners invading their patch.

To be in the best position to fight this battle, it wants to hit back by pushing overseas itself.

Since launching its European strategy with a fanfare a year or so ago, however, ICL has found the going tough. The company already has a sizeable operation in France, where sales total around £70m a year, thanks largely to its expertise in supermarket systems; and it has acquired a 50 per cent stake in a Danish company, Regnecentralen, which has a turnover of around £25m in small computer manufacturing and packet-switching systems. But it still has a gaping weakness in West Germany, Europe's largest single computer market.

The strategy it has outlined to overcome these problems is based on its technological commitment to open standards and mid-range range computer market. ICL has opted for the Unix operating system, and taken a lead role in the rapidly-advancing European initiative to establish a common approach to computer design and communications systems.

This policy holds out more prospects of overseas expansion than trying to hunker away in the mainframe area, where the customer base is already in the hands of competitors.

In mid-range computing, the market is more open. Users are still exploring or entering this area; and once many of the systems based on Unix, competitors can force even committed customers to change.

At the same time, ICL is working on a range of ideas for the Europe of tomorrow. An integrated market, it believes, will need systems and software to run a co-ordinated transport system; it will equally need to revamp its organisations on a European scale.

ICL has taken a lead role in a common European approach to computer design

rather than a national scale; and there will be a host of other opportunities.

All of these efforts are being co-ordinated through a European Strategy Board. The key to longer-term success may well be the ability of the Board to find the right targets for acquisition. So far, the going has been slow on this front. But it has been equally sluggish among the group's major competitors such as Siemens or Bull.

It is not beyond the realms of possibility that some of these larger groups may eventually be forced into each other's arms to solve the problem of market integration.

After all, they each face a similar competitive challenge from suppliers who are already better organised in Europe than themselves – the American computer companies.

This policy holds out more prospects of overseas expansion than trying to hunker away in the mainframe area, where the customer base is already in the hands of competitors.

Terry Dodsworth

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10. The following table shows the number of hours worked by 1000 employees in a company.

THE COMPUTER INDUSTRY 12

Advancing technology boosts sales of lap-top machines, says Paul Abrahams

The portable computer revolution takes hold

AS YOU sit in a US airport, waiting for air traffic controllers to give the go-ahead for you and your fellow travellers to board an already twice-delayed flight, it is obvious that the portable computer revolution is taking hold.

Across the departure lounge, wise and experienced businessmen sit crouched at telephone kiosks, their faces illuminated by the gleam of screens displaying databases of potential clients on their portable computers. You are trying to read a Robert Ludlum novel — they are making money. The portable computer has come of age.

Managers are using them in increasing numbers to continue working on word-processing, spreadsheets and graphics outside the office. Surveyors and architects are tapping on keyboards to help control production on construction sites. And members of the financial and insurance community are finding that portable machines attached to modems can allow them to provide instant quotations and register sales immediately without paperwork.

The increasing high profile of portable computers is hardly surprising, given recent sales. Intelligent Electronics, the Paris-based market research company, estimates that shipments of portables to Europe increased from 129,000 units in 1987 to 256,000 last year — an increase of 98 per cent.

Growth in the UK has also been impressive. Romtec, the UK-based market research company, believes that business sales of portable machines increased by 33 per cent last December compared to the previous month.

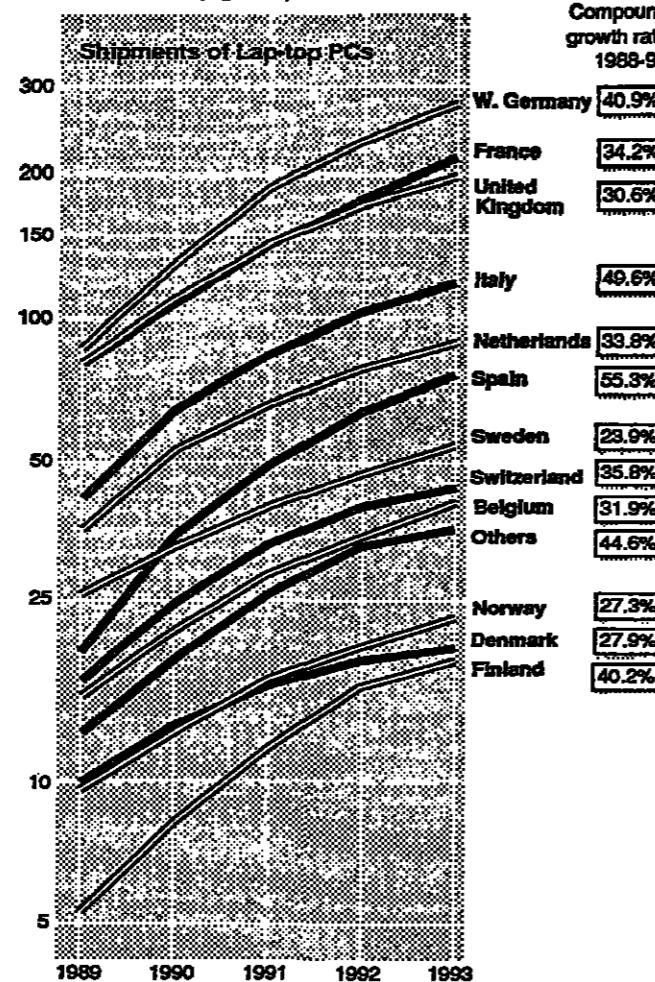
That sort of heady increase looks set to continue. Compaq, the US portable manufacturer, estimates that by 1989 sales of portables world-wide would be equivalent to 15 per cent of the total PC market.

There are a number of reasons for this rapid expansion. Not least among them is the improving technology available to manufacturers.

Mr Michael Goude, a director of Cap International, the Norwell, Massachusetts-based hi-technology market research

Market growth

Thousands of units (log scale)



company, points out that there have been notable advances in storage capacity, power consumption of hard disks and the images generated by available display technology. This has been combined with an improvement in the ratio between price and performance.

These improvements in weight. There still appears to be a market for machines, such as the Z88 lap-top supplied by Sir Clive Sinclair's company, Cambridge Computer, which offer reduced functionality (non-standard word-processing, spreadsheet and database packages), but which come with notable portability. The Z88 is the size of an A4 pad and weighs only 1kg. (2.2lbs). However, at present, the market in both the US and Europe remains dominated

twice that of transportables. The sort of lap-top portable machine which offers the full power of a PC, does have some draw-backs, however. Not least is price. Some of the machines at the top of the range remain particularly expensive.

The other compromise is weight. There still appears to be a market for machines, such as the Z88 lap-top supplied by Sir Clive Sinclair's company, Cambridge Computer, which offer reduced functionality (non-standard word-processing, spreadsheet and database packages), but which come with notable portability. The Z88 is the size of an A4 pad and weighs only 1kg. (2.2lbs).

However, at present, the market in both the US and Europe remains dominated

by Toshiba. Intelligent Electronics estimates that, in 1987, the company had 40 per cent of market. (Although figures are not yet available, it appears that Toshiba has increased that share during 1988.)

Mr Gordon Curran at Intelligent Electronics points out that Toshiba were able to gain much of that share by infiltrating more than 80 per cent of the IBM distribution network in Europe — one of the best and most extensive in the region. Toshiba's nearest competitor is Zenith.

However, the rapid growth of the portable market may not mean that the majority of the manufacturers in the sector will be able to continue generating healthy margins and profits.

Analysts point out that as other sectors of the computer sector become less buoyant, so other companies will be attracted into the portable market.

The lap-top sector, which is expected to generate much of the expected growth in the portable market, is already becoming busy if not yet over-crowded. Compaq, which had previously not entered the lap-top field, launched a new machine, the SLT 238, last November.

Intelligent Electronics expects the company to be a major force in the market next year. Other companies expected to launch products this year include NEC of Japan and Apple Computer, the Californian-based computer company.

Cambridge Computer, the UK manufacturer, is also expected to announce the introduction of an IBM-compatible machine. It is believed to have signed a contract for 3 inch disk drives.

Analysts believe that if the company is able to repeat the lightness and price of the Z88 with the functionality of an IBM-compatible machine, it could become a force in the market.

The industry is also waiting to see how IBM itself will move. The company has already launched two unsuccessful portable products. Last November it cancelled the introduction of a mains-powered machine after failing to read the movement of customer demand towards battery-powered products.



Airborne executives working with a Toshiba lap-top computer. Toshiba is the dominant player in this sector

IBM runs the risk that if its product cannot compete effectively against the computers of Toshiba and Compaq, the company might not be able to guarantee 100 per cent distribution among its own dealers. Analysts are as yet as to whether IBM will launch a product towards the

end of 1989 or wait until the company has perfected a competitive machine incorporating its new operating system OS/2.

With so many companies exploring the market, the future of portable computing appears assured. Other concerns are also considering entering the field with new technologies. Both Hitachi and NEC of Japan have demonstrated colour liquid crystal displays (LCDs), for example. They should be commercially available once the cost has been reduced sufficiently to allow exploitation.

However, it remains to be seen whether Toshiba's vision of lap-top computers, which the company believes will replace desk-top machines, will materialise.

Mr Peter Bayley, marketing director at Compaq UK argues that computer users will always want greater power, memory and function before

it can be miniaturised. He says that new developments will always appear in desk-top machines before portables.

One aspect of portable computers which may eventually hold up the growth of the market may, in fact, be



Travelling salesman using a Hewlett-Packard Vectra lap-top PC

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FINANCIAL TIMES SURVEY

The fragmented design world is being swept by change: a new generation of ambitious companies

is scrambling to assemble international design networks. The next few years will decide whether all this activity has been worthwhile. writes Alice Petersen

Drawing plans for the world

FOR DECADES design has been an archetypal cottage industry in which artisans and entrepreneurs have practised their craft within small companies.

But the industry is changing. In the last year or so the world's design consultancies have become embroiled in a flurry of acquisitions and associations as a new generation of more ambitious companies has scrambled to assemble international design networks.

The aim of the flurry is simple. The activities of the giant industrial groups which commission design projects are becoming increasingly international. Yet the "cottage" character of the design industry means that there are comparatively few design companies with the resources to execute international projects.

Over the next few years it will become apparent whether the acquisitions and associations have been worthwhile. The critical question for the design companies is whether there is enough demand to satisfy the hastily assembled international networks and whether design can overcome its traditional weaknesses to "mature" into an international industry.

Throughout the 1980s the level of spending on design has

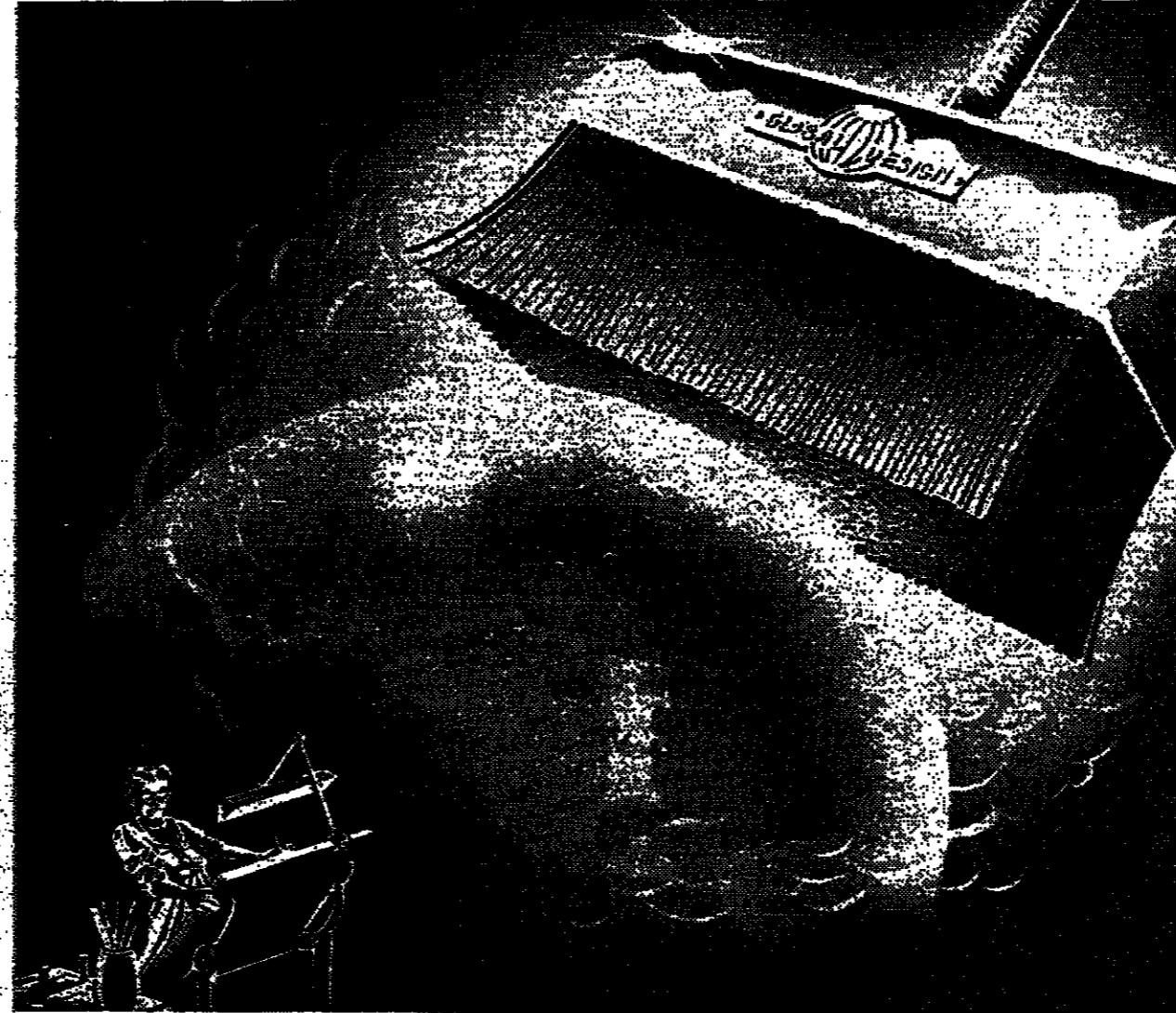
risen rapidly. Frenetic corporate activity across the world's stock markets — the flood of takeovers and leveraged buy-outs in the US and the flurry of mergers and amalgamations that have heralded the approach of 1990 in Europe — have accentuated the need for companies to invest in corporate identity programmes.

Similarly, the increased sophistication of consumers, combined with the rapid rise in advertising costs in most major economies, has stimulated new interest in product and packaging design. The only depressed area is retail design.

The fragmented nature of the design industry means that any data is notoriously inaccurate. The best estimates suggest that the world market for industrial design and commercial architecture is worth \$5bn.

Interior design, which includes retail projects, is valued at about \$1bn. Product and graphic design, including corporate identity, meanwhile, is worth \$200m. The rest belongs to commercial architecture.

In recent years the sum of industrial design projects has become increasingly international. Japanese companies now need to redefine their identities to accommodate expansion into North America or Europe. French and West



International Design Industry

German groups are developing new products to be introduced throughout the European Community.

"Most of the major industrial groups are now positioning themselves all over the world," said John Disenbach, president of Landor International, which operates a worldwide design network from San Francisco. "They need to deal with consultancies capable of providing a sophisticated service wherever they operate."

In the past the bigger US and UK design companies have handled international projects from their headquarters in New York or London. But the

sheer speed of the restructuring of international industry — the recent activity in European electronics acts as an apt example — means that design companies must be far faster and more flexible in their response.

Moreover, design projects are becoming increasingly sophisticated and the process of project implementation more complex. "The days when we could fly people out to different countries to oversee the implementation of a corporate identity programme are over," said Brian Boylan, group managing director of Wolff Olins, one of London's leading corpo-

rate identity consultancies. "We now need people on the ground with the necessary skill to supervise very complex programmes."

Yet few design companies can offer such a service. The design industry is reasonably well-established — albeit immature compared to similar sectors such as advertising — in the US and the UK. There is no industrial infrastructure for design. In many European countries, even in Italy and West Germany, both renowned for product design, the best known designers, such as Dieter Rams of the Braun consumer electronics group, tend

to be employed in-house.

This imbalance between demand for international projects and supply, together with the need to remain competitive within the industry, has catalysed the recent wave of realignments in design.

The acquisitions and associations are also a legacy of the emergence of a new generation of design companies with access to the financial resources required for international expansion.

In the mid-1980s a group of UK design companies took advantage of the opening of the Unlisted Securities Market — a less stringent, secondary

stock market — to go public. A public quotation has not only given these companies the capital they need to expand, but has also increased the pressure on them to sustain growth by diversifying into new areas.

Fitch-RS, which made its name in retail design, has bought RichardsonSmith, the US product design company. "We realised some years ago that we could not depend on UK retail design for ever," said Ian Cochrane, group managing director.

Similarly Michael Peters, best known for packaging, has done a series of deals culminating in the acquisition of Hamblett Terrell, the US retail design group, last year.

The expansion of Fitch and Michael Peters has encouraged the independent UK companies to follow suit. Wolff Olins has established offices in mainland Europe and the US. Minale Tattonfield has formed a string of advertising, public relations and market research activities.

Satchi ventured into design in 1985 by buying Siegel & Gale, the New York corporate identity specialists. WCRS staged acquisitions in the US, UK and Australia. Meanwhile, Addison Consultancy has augmented its international design network.

The most powerful force of all is the WPP Group which, in a few years, has become the biggest single player in the international design industry by buying businesses like Anspach Grossman Portugal, Walker Group/CNI in New York and Stewart McColl in London.

Many of WPP's new subsidiaries are now using its support to establish an international presence. "When we bought CNI in 1985, I raised the money by hocking my house," said Ken Walker, chairman of the Walker Group. "You do not sleep easily knowing you owe more than your own net worth."

The involvement with WPP not only gives us more stability but an established network of international offices to support us."

Even at this early stage the progress of the international design groups has been somewhat erratic. The immaturity of the industry means that recruitment is a persistent problem.

Moreover, demand for design is notoriously volatile, as the retail design of the US and the UK are now discovering. In theory the formation of larger groups, with more efficient management and tighter finan-

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Illustration: Mark Thomas	

cial controls, should strengthen the industry. In practice life has not been quite so simple. For every international group that can cite a startling surge in fee income, there is another which is suffering.

WCRS watched the profits from its newly acquired design subsidiaries drop dramatically last year. A few weeks ago it sold Saunders, its UK design company. Similarly Addison has been involved in successive rounds of restructuring.

Meanwhile Michael Peters has encountered problems with the recently acquired Hamblett Terrell, which is floundering partly due to the downturn in US retail design and partly because of the illness of one of its founders.

The industry's sceptics suspect that the problems with new acquisitions have barely begun. The crunch will come, or so they say, in a few years time when the performance-related payments negotiated as part of the original deals come to an end.

Neil Blackley, who follows the fortunes of the design companies as an analyst at James Capel, the London stockbrokers, is dubious that the design industry will ever overcome its traditional weaknesses.

"There are opportunities for international groups to emerge in certain areas, such as corporate identity and retail," he said. "But as long as the cost of entry is so low that young designers can break away from the big groups and set up on their own, design will be an immature industry."

Yet the flow of acquisitions and associations continues unabated. Retail design apart, there is no sign of a slowdown in the growth of corporate expenditure on design. And the sheer speed of corporate activity in the industry has intensified the pressure on other companies to expand in order to keep pace with their competitors.

"If you want to keep yourself and your employees happy in this business you have to work on the biggest and best projects," said Joel Portugal, a principal of Anspach Grossman Portugal. "The best projects today tend to be international and — whether we like it or not — we have to provide an international service to get them."

BEWARE OF THE BULL.

Design effectiveness is not achieved through clichéd philosophies and observations. It comes through the highest level of creativity brought about by innovative thinking, careful strategic planning and inspired management.

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DESIGN 2

US: design is taken more seriously than in Europe**Lining up to profit from identity parade**

DESIGN is a serious business in the US: the industry is not only the biggest and slickest in the world but is taken much more seriously than its European counterparts as an industrial and cultural force.

There is, after all, one of Arthur Young's Bell helicopters suspended from the ceiling of the Museum of Modern Art in New York. And the shiny red paint of Pininfarina's Cisitalia sports car marks the entrance to the museum's architectural and design department.

Better still, from the design industry's perspective, Harvard Business School has just introduced corporate identity case studies to its MBA syllabus. The future chairmen and chief executive officers of corporate America will be subjected to a corporate identity sales pitch at the earliest possible stage of their careers.

But behind the rosy facade of buoyant demand and MBA case studies, the US design industry is in a state of flux. In recent years many of the most prestigious names in US design have been bought up by UK design companies and the international marketing groups.

During the same period the leaders of the US industry have turned their attention outside the US as, through a series of

acquisitions and associations, they have fought to become forces in the international design market.

The origins of US industrial design are rooted in the efflux of emigres, which left Europe for North America, in the mid-war years. These people made their names in different areas of design. Some worked on a freelance basis as "pure" designers. Others, like Raymond Loewy and Walter Landor, laid the foundation for the modern design industry by building up substantial businesses.

The distinction between the "pure" designers and design as an industry persists today. At a time when the US design industry is bigger and more business-like than ever before, the most talked-about interior in New York is that of the Ritz-Carlton Hotel, the work of Philippe Starck, the French designer.

So far the 1980s have been prosperous years for the \$2.25bn (£1bn) US design industry. Corporate identity has been buoyed by the high level of corporate activity: wave after wave of acquisitions; the influx of investment from Europe and Japan; the expansion of US companies overseas; together with the omnipresent threat of takeovers.

"Corporate identity is now

taken more seriously than before and the financial pressure on US companies has never been greater," said John Diefenbach, president of Landor, one of the leading corporate identity consultancies.

Similarly the fragmentation of consumer markets has boosted demand for product and packaging design. This trend, together with the soaring cost of advertising, has prompted consumer goods companies to reposition and repack their products.

"The area of brand identity must be one of the fastest growing areas in the future," said Joel Portugal, one of the founders of Anspach Grossman Portugal, the corporate identity specialist which now belongs to the WPP marketing empire.

The only area to have experienced real difficulty is that of retail design. The retail boom of the early and mid-1980s turned to bust in the US last year, when lack-luster sales and frenetic corporate activity depressed demand for design projects.

"Last year was probably the toughest-ever for retail design," said Ken Walker, chairman of Walker Group/CNI, the WPP subsidiary which is one of the largest US retail design companies. "The market is starting to pick up,

but lots of the smaller companies are still vulnerable."

The recent difficulties of the retail design specialists acted as a neat example of the problems which await an industry that has become accustomed to apparently effortless growth. These difficulties have been compounded by the fragmented structure of the industry.

For, despite the size and stickiness of the larger companies, the US industry is still divided between hundreds of different companies. Design styles vary from coast to coast and even from state to state.

The most concentrated area of design is corporate identity which is dominated by four forces: Anspach Grossman Portugal, Landor, Lipincott &

US acquisition when it bought Siegel & Gale in 1985. Last year it added to its US interests with the acquisition of Cross Associates in Los Angeles.

A year ago WPP — the marketing services group led by Martin Sorrell who, in his former guise as Saatchi's finance director, negotiated its acquisition of Siegel & Gale — moved into US corporate identity by buying Anspach Grossman Portugal.

Helped by the financial resources and the management infrastructure of their new owners, Siegel & Gale and Anspach Grossman Portugal are now expanding internationally. "For the first time we are dealing with global identity programmes on a large scale," said Alan Siegel, chairman of Siegel & Gale. "As a design company we have to organise ourselves to take on those projects."

Siegel & Gale has already expanded in the US and has opened a string of European offices. By the end of the year it will have moved into Asia-Pacific.

Anspach Grossman Portugal's plans are less ambitious. "Whoever said that 'biggest is best'?" said Joel Portugal. "The fun part of my job is working on the most exciting design projects, not trying to run a business empire."

Nevertheless Anspach Grossman Portugal became involved with WPP because it realised it needed to expand into the international sphere. It intends to have opened a European office, possibly by acquisition, later this year.

Conversely several European consultancies are strengthening their presence in the US. Pentagram has already established bases in New York and San Francisco. Addison has staged a series of US acquisitions. Wolff Olins has set up a small office in San Francisco and is now looking for a bigger base on the East Coast.

The pace of international investment in other areas is also accelerating. Fitch, the UK consultancy best known for its retail work, intends to expand in that field in the US by using Richardson Smith, its recently acquired product design subsidiary in Ohio, as a base.

Similarly Michael Peters, which made its name in UK packaging design, has bought Hamblett Terrell International as its springboard in the US.

Meanwhile Walker Group/CNI has used the support of WPP, its new owner, to establish its presence in retail design in Tokyo and London. Given that the US retail design market declined so dramatically last year, Walker's international expansion was opportunistic.

The US market was very tough but our international growth more than offset it.

Alice Rawsthorn

Ken Walker: "The US market was very tough"

said Ken Walker. "And without the support of WPP we could not have developed our international business so quickly."

Alice Rawsthorn

AS THE growth of the UK design industry shows little sign of abating, the strengthening chorus of "design or decline" is beginning to sound a little off-key. It implies a degree of homogeneity, shared views and standards that simply does not exist.

From the outside the 2,000 or so companies in the UK design business may appear to be singing from the same song sheet. But on closer inspection it becomes plain that the words mean different things to each of them.

A picture soon emerges of a youthful and highly fragmented industry, hungry for further growth in turnover and profits. As a result, some of its more intelligent spokesmen are worried that the superficial and greedy operators are doing the rest of the business a disservice.

The industry operates in three main areas: graphics, which can range from packaging to a corporate identity pro-

gramme; environments, which includes office interiors and retail design; and products, which covers consumer goods and industrial parts.

Stephen Bayley, chief executive of The Design Museum, is concerned that a certain interpretation of design has been oversold to the detriment of those professionally involved in it.

"The emphasis nowadays and in the future will be as much on experience as appearance," says Mr Bayley. There are certainly indications that buyers of design are becoming more discerning. At the same time, some design companies are developing a level of sophistication and management control previously

unheard of in Britain.

The rabble competing for design work ranges from jobbing designers and "kiss and run merchants" to professional specialists and slick international consultancy groups. Since a project can describe anything from an overnight revamp of a point of sale leaflet to the introduction of a 500-strong chain of shops, the size of the British design market is difficult to calculate.

It is known to be bigger than public relations and market research and growing at a faster rate than advertising. In her report for the Design council, Beryl McAlhone valued the UK design market at £1.7bn with profits of £267m for 1987 and suggested a growth rate of

more than 25 per cent in turnover and more than 30 per cent in profits. These are still the most authoritative estimates.

But the national barriers are breaking down. The Americans, such as Landor Associates, Saatchi and Saatchi, owned Siegel & Gale and WPP-owned Walker Group/CNI have toughened up the competition in the UK and some British companies are making their presence felt on the other side of the Atlantic, primarily through acquisition.

Many of the largest and oldest players in the business firmly believe that a "superleague" of global design companies will emerge and are racing to build international networks. Here the long-established

design companies like Fitch R-S, Michael Peters, Pentagram, Wolff Olins and Minale Tattersfield, are competing with a cluster of marketing service groups, including WCRS, Saatchi and Saatchi, Addison and WPP.

WPP's chief executive, Martin Sorrell, has been leading the acquisition activity by buying businesses like Anspach Grossman Portugal and the Walker Group/CNI in the US and Stewart McColl Associates, OYA and Sampson/Tyrell in the UK.

Interestingly, though, the fiercest battle between the British and American companies looks set to take place in Europe. None of the British companies are properly established on the Continent yet, despite the fact that it accounts for a significant amount of their work.

By contrast European design companies have had very little impact on the UK and are unlikely to do so. In no other country are there so many large, profitable or publicly quoted design companies in relation to the size of the economy. The influence and reputation of British design in packaging, retail and identity, has never been higher.

In packaging, leading domestic companies like Lewis Mobley, Robinson Lambie-Nairn and Smith and Milton, are all carrying out an increasing amount of work in Europe. The approach of the single European market, the awareness of the value of brands, and the continual re-packaging programmes of some of the UK's biggest retailers and financial service companies, means that the top British packaging companies can find themselves actually resisting growth.

Robinson Lambie-Nairn, which undertakes identity and TV work as well as packaging, has a policy or keeping its staff to a maximum of 35 people. The argument that size leads to sacrifices in creativity is still widespread.

Ironically, however, in the retail sector it is the small companies that are most at risk. The downturn forecast in retail spending is likely to hurt the small operators far more than the big ones which have moved beyond the high street.

Fitch R-S and McColl, for instance, are increasingly competing with architectural practices like the Building Design Partnership and YRM, for long-term projects from shopping centres and airport terminals to the re-design of parts of

London. McColl has recently been appointed to work on a new look for London's Oxford Street and, together with DEGW, the London Underground stations.

Big retail design companies are also benefiting from the activity in the financial services market. So while Fitch R-S is re-designing the Midland Bank's high street branches, McColl is working for the Leeds Permanent Building Society. The project for McColl is not simply to smarten up the Leeds' branches, but to create a new identity which could even lead to a name change.

It is the area of identity where design companies deal with the very senior reaches of the client organisation, that the Americans are most keenly competing. The future surrounding Landor Associates' re-design of the British Airways Identity in 1984, was almost equalled by the unveiling of the new BP logo last month, which was updated by the Seattle-based US company Siegel & Gale.

The hostility from parts of the British design community to American identity work reveals more than anything else a deep-seated insecurity since it is an expanding sector and there is more than enough work for the British corporate identity firms.

In addition to their traditional areas of activity, in finance, commerce and industry, the public sector is now

turning to identity consultants. Wolff Olins, for instance, has completed jobs for the Department of Trade and Industry, the Department of Employment, the Department of Health and Social Security and even started a project for the

Ruth Ollins

Deputy editor of Campaign



Martin Sorrell: has been leading the acquisition activity

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THE OBSERVER, STEPHEN GARDINER

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Corporate Identity



Interprint
West Germany, Europe
Corporate Identity



MITSUBISHI
MOTORS
Japan, worldwide
Dealer Identity



Penta Hotels
West Germany, Europe
Corporate Identity

Bowater Industries
UK, Europe, Far East
Corporate Identity

British Midland Airways
UK
Corporate Identity

Girobank
UK
Corporate Identity

Pillar Electrical
UK, Europe
Corporate Identity

KLM
Holland, worldwide
Corporate Identity

London Electricity Board
Corporate Identity

Coopers & Lybrand
International
Corporate Identity

Blue Circle
UK
Corporate Identity

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The major advertising and marketing groups have added design to their services

Multinationals demand world approach

DESIGN is a \$200 billion worldwide industry and growing fast. Yet while it remains largely split between thousands of small specialist firms in many different countries, the needs of its major clients are changing.

Increasingly, the activities of the industrial groups, which are its most important customers, are becoming global. These multinationals need design companies capable of handling complex world-wide projects.

Little wonder that in this situation, major advertising and marketing groups, such as WPP and Saatchi & Saatchi, have seen an opportunity, and added design to their wide range of marketing services.

Martin Sorrell's WPP group now includes nine design companies, the major plus is non-media advertising division, which in 1987 contributed 16 per cent of WPP's \$224m turnover, and 14 per cent of its \$14m profits.

Early last year WPP bought Stewart McCall Associates, a leading UK integrated design company. The acquisition created the largest graphics and design group in the UK, and with its media group, subsidiary OYA in the UK, Walker Group in the US, formed the largest retail design group in the world.

Later in the year, WPP was in the market again, buying the US-based corporate identity consultancy, Aspanco Gravesman Portugal. The US corporate identity market, WPP estimates, is worth around \$200m a year and is growing at more than 20 per cent annually. Last year no less than 1,364 US companies changed their names.

Also in the WPP stable are Sizakov Berman Gomes, a US firm specialising in total communications planning, everything from corporate identity to retail facilities and package design; and in the UK, office and commercial interiors specialist, Business Design Group; "image managers" Sampson/Tyrrell; and packaging and promotion specialists VAP and Greaves Hall.

The companies are encouraged to retain their own identities and sharpen their own professional skills, while WPP provides overall strategic management resources and financial discipline.

But Stewart McCall has formed a joint marketing company with Business Design and



Maurice and Charles Saatchi: they offer a global reach

large public company.

"The need to co-ordinate and integrate selectively corporate strategy and communications is becoming widely recognised.

Clients are restructuring and reorganising themselves to this

end - there are many benefits

and efficiencies to be gained.

And they will be looking for

service companies which, with

no loss of capability, can work

harmoniously together to a

common brief and with shared

understanding."

The group now works with

214 major national or multinational companies in two or

more of its services; and clients

such as Unilever, Citicorp, Nestle, Quaker Oats, and Eastman Kodak use WPP's design capabilities as well as its other services such as advertising and public relations.

In 1985, he did so

to gain much the same benefits

that are now accruing to

WPP's design firms from being

part of a large group.

It was increasingly clear to

me that the corporate identity business was becoming multinational," he says. "Global

companies were emerging that

were concerned about their

world-wide identities. To work

with them and service them

properly was going to be difficult from New York. It needed

a broader geographical base, staff with a greater breadth of culture and viewpoints."

Saatchi offered a "global

reach and a strong business

base, says Siegel. "But they let

you run your own company."

Saatchi is now building an international design network around Siegel & Gale. It has tripled in size since its acquisition, opened offices in London and Sydney, and plans to be in eight European countries as well as Japan and Korea by the end of the year.

Corporate identity forms the

bulk of S&G's work but it is

fast expanding into retail

design and other fields, plan-

ning not only to increase its

cross-border business but to

compete in all major national

markets where design is

increasingly being used as a

marketing tool.

The structure of a large mar-

keting group should help to

strengthen its design subsidiar-

ies but it is no guarantee of

success.

In contrast to the British advertising group, WCRS, in two years has failed to secure significant profits from its venture into design. In 1987-88, profits fell from \$90,000 to \$22,000. Sammers Design in the UK lost a large contract. Lynn Dyer in Australia found market conditions tough, and Heller Greene in the US, though growing fast, was noted by Ad Week Magazine for its advertising rather than its design work.

Peter Scott, WCRS chief executive, recently made clear

that he sees the group's main

three businesses as advertising,

media-buying and public

relations. A few weeks ago

WCRS reduced its exposure to

its design work.

Philip Rawsthorne

design by selling Saunders. It is likely to retain a presence in the industry, but the expansion of its design interests is not one of WCRS's priorities.

Addison Consultancy is pur-

suing a contrary course. Last

year, it demerged its Michael

Peters consultancy business,

and it followed that by selling

its advertising agency, Che-

twynd Haddow, last month to the

Brunning Group, so that it

could concentrate on its mar-

ket research and design

operations.

Against a background of con-

stant takeover speculation,

Addison has restructured its

design companies in the UK,

and in the US and Singapore.

Its strategy now is to seek a

competitive edge by putting

together teams of designers in

the entire range of disciplines

from architects and ergonomists

to product and packag-

ing.

This is a response, Addison

claims, to clients' needs. It

cites the case of Advantage, a

new US supermarket, where it

researched consumer demand,

developed an entire product

range to meet it, packaged it,

and finally designed the

check-outs.

By going back to its design

roots, offering a full range of

skills and, it claims, a Euro-

pean creativity allied to an

American commercial and

research expertise, Addison

believes it can carve out a big

share of a very competitive

market. But the takeover

rumours persist.

Philip Rawsthorne

Fitch-RSP-PLC

Fitch-RS PLC

is now active worldwide

providing design and architectural

solutions which enhance business,

performance and profitability.

Fitch linked with RichardsonSmith now

brings clients a truly international

perspective. We work with clients

throughout Europe, America

and the Far East to develop design

strategies which are both pertinent

to individual markets and which

transcend geographical boundaries.

We offer a blend of strategic and

creative consultancy expertise which

demonstrates a real understanding of

consumer needs. In Interior Design

we work with some of the world's

famous retailers. In Architecture,

we are active in shopping centres,

offices and leisure facilities.

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teams specialize in major projects

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THESE COMPANIES - AS WELL AS MANY OTHERS - RECOGNISE THAT STRATEGIC DESIGN IMPROVES THEIR BUSINESSES.

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'Simple is smart'

TWENTY years ago Alan Siegel gave up his job with a design consultancy to set up his own company, with a friend, from the living room of his apartment on 74th Street, New York.

Today he runs the same company from an office in an Avenue of the Americas skyscraper. The walls are lined with Irving Penn portraits and the windows look out to the New York traffic as it streams towards the greenery of Central Park.

The company, Siegel & Gale, is the chief design subsidiary of Saatchi & Saatchi, the world's largest marketing services group. It employs 230 people at offices in New York, San Francisco, Los Angeles and half a dozen European cities. By the end of the year it will complete the formation of its international design network by opening offices in Hong Kong and Tokyo.

In 1983 Siegel & Gale had "no clients and no offices". Alan Siegel and Robert Gale - the original partners who sold his interest in 1976 - "pounded the pavements looking for work".

Corporate identity was then in its infancy. In the early days Siegel & Gale worked on placement projects for small businesses and political organisations. After six months it was given a project in South America for Uniroyal, which had been one of Alan Siegel's former clients.

It was in the mid-1970s that Siegel & Gale really found its feet. First it won a competition to devise a new international corporate identity for Pitney Bowes. Then it moved into a new area - language simplification - for which it is now best known.

DESIGN 4

PROFILE: LANDOR ASSOCIATES

Established leader will get some competition

IN THE last year or so the design industry has become embroiled in corporate activity as the design groups of Europe and North America have scrambled to assemble international networks.

Yet there is still only one truly international design network: Landor Associates, the Californian company that has expanded all over the world from its original base of a ferry on the San Francisco waterfront.

For over a decade Landor has dominated the world of international design. Today, thanks to the whirl of activity, it faces a markedly more competitive future.

Landor traces its origins to the late 1930s when Walter Landor, an industrial designer who had left his native Germany to live in London, travelled to San Francisco to work at the 1939 Exposition. Landor liked the city and became one of the wave of artists and artisans who left Europe for a new life in the US.

In the early days his design company specialised in the design of boxes and bottles for the food and drink manufacturers of California and the Mid West. But from the very beginning it was involved in work outside the US. By the mid-1950s Walter Landor was working in the UK and Japan, as well as in his native Germany.

In the mid-1960s, when corporate identity gathered momentum in North America, Landor diversified into the new field. Initially its projects were small in scale and confined to the US but in 1969 it won a



competition to redesign Alitalia, the Italian airline.

The Alitalia project established Landor as an international force. Thenceforth it expanded rapidly outside the US. In the early 1970s, at a time when its competitors were concerned with domestic business, it opened offices in Rome, Tokyo and Mexico City.

Landor's international ethos was partly the product of necessity. Its chief competitors in design were based on the East Coast where there were plenty of assignments to keep them busy. Landor's base was the West Coast, where the industrial infrastructure was less developed. It had no option but to look further afield for business.

Yet the culture inculcated by Walter Landor – with his *émigré* origins and his fondness for travel – also made a mark on the company. From the earliest days Landor had employed people from different countries. It now employs 14

different nationalities in San Francisco alone.

The Landor of today is the biggest single design company in the world. WPP, the UK marketing group, is larger overall, but its design activities are divided between a string of subsidiaries. Landor has 500 employees in 21 offices spread across 19 countries. More than 40 per cent of its \$50m (£28.5m) fee income comes from outside the US.

Landor's work embraces corporate identity, packaging and retail design. It has worked for 50 banks, from Bank of America to Barclays, and 25 airlines, from SAS to Singapore.

Its competitor says that it has been too big for too long and that the rigour of its research produces work that is bland or even boring. They cite a recent round of redundancies and a series of restructuring programmes as "evidence" that Landor is losing its way.

Landor prefers to point to its track record and to argue that it has more experience of international design projects than any other design company in the world.

Walter Landor retired five years ago and ceded control to a management team headed by John Diefenbach, the sober-suited business graduate who



Corporate identity work: World Wildlife Fund, left, and Jardines, Matheson

joined in the 1970s after a career in advertising and is now Landor's president.

Landor is now run (the original ferryboat is under restoration) from an 18th century warehouse on one of the streets running down to the San Francisco harbour.

Its international activities are divided between regional head offices in London, which services Europe; Tokyo for Japan; Hong Kong for the Asia-Pacific region; and New York for the East Coast of the US.

Under the current system all the creative work for each region comes from the head office. In Europe, for example, all the creative work comes from London, while marketing and project management is delegated to "local" offices in Rome, Paris or Oslo.

So far Landor has expanded by start-up and has not had recourse to acquisition. The tradition of employing people of different nationalities has helped to alleviate recruitment problems that have dogged the development of so many other international groups.

It has been able to move employees around the network from country to country. The creative director in Tokyo is a Japanese designer who was trained for

five years in San Francisco. Although Landor adapts its approach to suit different clients in different cultures, it favours the same strategic approach to design consultancy all over the world. In the 1960s Walter Landor was one of the pioneers of the use of market research in design. This approach has been refined under Diefenbach.

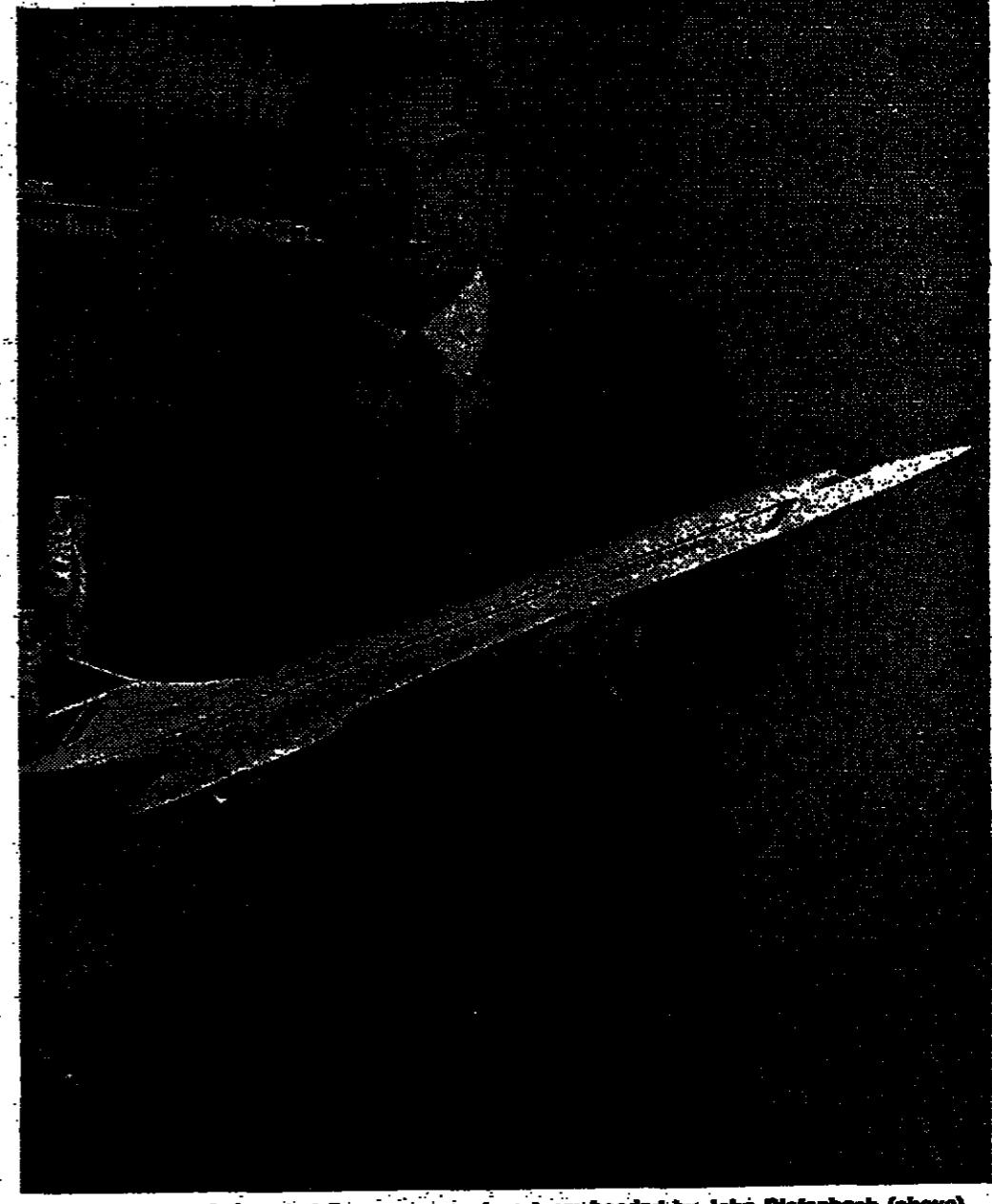
As industrial companies have become more aware of design, so design projects have become more sophisticated. The days when a corporate identity programme began and ended with a new logo are over, says Diefenbach, as are the days when companies hired and fired design consultancies for single projects.

Corporate identity, he says, now embraces the wider process of image management involving every aspect of customer service and, increasingly, communications with employees. Moreover, companies now retain design consultancies for several years. A really ambitious project, like Landor's corporate identity work for General Electric, began three years ago. Creating a corporate identity programme for GE is like repairing the Golden Gate bridge.

Landor's internal challenge for the future is to refine its services so that it can fulfil the new, wider objectives of its design projects. Its external challenge is to fend off its new competitors in the international design field.

Despite all the acquisitions and associations in the design industry, Landor can still claim its laurels as the only truly international consultancy. But, as Diefenbach admits, the competition is stronger than ever before. Landor's dominance of the design world will soon be put to the test.

Alice Rawsthorn



Walter Landor ceded control five years ago to a team headed by John Diefenbach (above)

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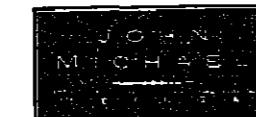
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PROFILE: WOLFF OLINS

Tired of being top dog in Minnesota

"THIS lavatory is a symbol of our corporate mission," says Wolff Olins, pointing proudly to a nondescript, but undeniably clean *gabinetto* in the basement of his London headquarters.

"Having spent 20 years lecturing our clients about the need to look after their staff, it's incumbent on us to set an example, even in the smallest details."

The chairman of Wolff Olins is famously sensitive to detail, but nowadays his long-term ambitions are resolutely global: "We're tired of being referred to as the industry leaders in Britain," he says. "It's like being top dog in Minnesota."

And times have changed. If corporate identity consultancies was ever a niche market – and Olins remembers that "20 years ago, all we were selling was an idea" – it is now a serious business. The corporate identity market is growing each year by 30-40 per cent in the UK. The US market, estimated to be three times bigger than the UK market now, has the potential to be 10 times bigger again.

"Corporate identity among most Fortune 500 companies is extremely undeveloped," says Olins. "Most of them just have crude visual identities so ancient that nobody can remember who did them."

The European market, too, is fertile terrain. The prospect of a unified market in 1992 has

provoked a series of large-scale mergers and alliances among companies anxious to reposition their products and services. These extensive changes have generated new business opportunities for communications and marketing services over and above the demand among banks and financial institutions, even public institutions – for identities distinct enough to differentiate them from their competitors.

Advertising is now perceived to be a mature industry, with only modest prospects for growth, so it is unsurprising that the identity and communications market has attracted the attention of companies that used not to take the subject seriously. American corporate identity specialists, such as Landor Associates, and marketing services multinationals, such as WPP, through its subsidiary Ansbach, Grossman Portugal, and Saatchi & Saatchi, through Siegel & Gale, are now moving into what was once a Cinderella sector.

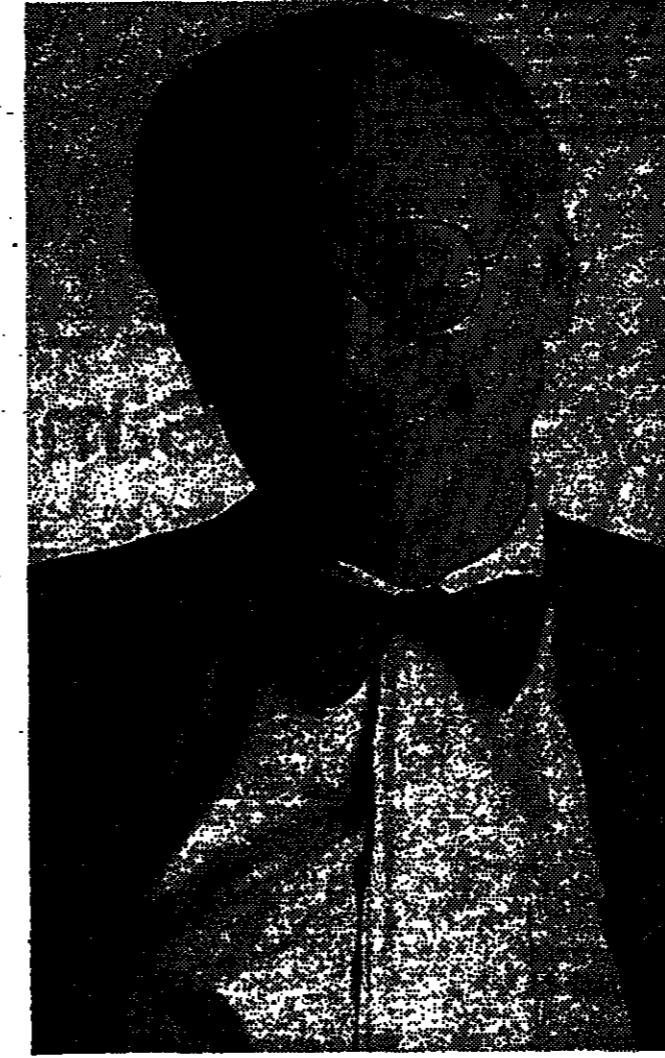
Small, coming-on-medium sized companies such as Wolff Olins, which flourished for years in a small niche market of their own creation, have little option but to fight it out. These pioneers suddenly face a choice – the big league, or relegation.

Wally Olins appears to be more confident than ever, palpably emboldened by the prospect of fighting his way into the big league. And he has a Plan. Six years ago top executives of Wolff Olins met in Le Touquet to consider how best to manage very substantial growth without sacrificing profits – or the company's most important asset, its unique culture.

Olins explains: "We decided to expand organisationally, by broadening the range of expertise and skills available to our clients, and quantitatively, by seeking new business in the sectors where we were already strong – chemicals, financial services, oil, government institutions and the public sector. But we were determined, too, to remain the best company in the world in our market."

The Le Touquet Plan targeted key international businesses, rather than geographical markets as such; but Olins accepts that he now needs greatly to expand what he calls the "distribution system" of the company's people and skills. This task posed profound financial and management implications for what was then, and remains now, with a \$125m turnover, a small company. "We need to generate profits of \$4m a year to fund the distribution system, with the infrastructure and personnel it entails," says Olins. "Our profits last year [1988] were \$1.15m; our fee income is projected to increase by 30 per cent this year. It will take us at least three years to achieve critical mass as a major player if we continue to rely on our own resources."

Among the alternatives to internally-funded, organic



Wolff Olins: has a Plan

growth, a public flotation – the favoured option for other design industry leaders during the 1980s – is ruled out. On this matter, Olins, his independent temperament no doubt reinforced by the stock market

A public flotation – a favoured option among other design industry leaders – is ruled out

crash, is adamant. He is open, however, to the idea of "strategic alliances" with companies compatible with our approach". He reasons that this, after all, is how some potential client companies in other sectors are coping with the challenges. "Look at GE," he says. "Why shouldn't we do the same?"

But if any "significant alliances" are imminent, Olins isn't telling. And his jovial assertion that the identity business has become a "higher form of life than advertising" is hardly the language of an eager suitor chafing a big buyer in that business. Wolff Olins has, in fact, worked ambitiously and significantly, on equal terms, with big advertising companies before an obvi-

ous example was the re-launch of ICL. But there are no obvious partners for Olins on the immediate horizon.

On the contrary, Wolff Olins' strenuous efforts to strengthen its internal organisation suggest that, for now at least, the company is going it alone. Wally Olins lists six areas where he considers development to be pivotal in the transformation of his company from a "first-generation, craft-based workshop" into a serious big league player.

These are:

- To establish high-level expertise in "behaviour", otherwise known as culture, or organisational and development consultancy. This would provide a strategic addition to the core business of identity consultancy and services;

- Greatly to strengthen analytical skills and services provision in communications. This function, which was formerly a satellite business, is to be part of the central service from now on;
- The establishment of self-financing, outreach offices in the US and in Europe;
- To develop further the profitable satellite companies which deal with implementation. Two such companies already provide architecture and interior design, and publications design and production.

compact operation – its principal assets, people and ideas. The new competitive environment may well force Wolff Olins to embrace a strategy of rapid growth – but quadrupling the supply of people and expertise is a major hurdle.

Wolff Olins, uniquely among the design success stories of the 1980s, enjoys a culture in which its people may learn and adapt to new challenges; staff training and management – late arriving, but none the less in place – will also help. As design's star pupil, Wolff Olins faces an imminent discovery: growing up is hard to do.

John Thackara

John Thackara is managing director of Design Analysis International

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PROFILE: FITCH R-S

Driven by commercial sense

RODNEY FITCH, who has spent the past 17 years building one of the largest design groups in the world, was recently told by a prospective US client that his company did not look "serious".

The story demonstrates not only the degree of fragmentation in the \$5bn global design market but how differently design companies do business on the two sides of the Atlantic.

By any standards, Fitch R-S is a design company to be taken seriously. It is driven by a strong commercial sense and determined to become one of the few truly international players in the design world.

Last year it took some major steps in its development. It integrated the UK architect Gordon Benoy, restructured into four major divisions (product design, interior design, architecture and graphic communication), and finally agreed its £10.5m acquisition of one of the leading US product design groups, Richardson Smith.

In spite of all this, Fitch took the decision to fly to the US personally and present to the prospective client single-handed. In retrospect he realises it was a mistake. He believes it can operate internationally

fielded five marketing men and a multiple screen slide show, were rewarded with the kind of contract on which the Fitch business built its reputation — the design of a mid-market chain of fashion stores.

"If the British design industry wants to compete in the Superleague, it is going to have to toughen up," says Fitch, who, though supported by an able management team, is still the driving force in his business.

Trained as an architect, he began his career by working for Terence Conran. After 10 years he broke away from the Conran Design Group to form his own company and rapidly joined one of his biggest and best-known clients, the then-down-to-Burton Group. Working with Ralph Halpern, Fitch and Company helped to segment the lack-lustre retailer into a series of new and profitable stores like Top Shop and Top Man.

Pulled by the retail boom, including work for shopping centres and Heathrow airport terminals, Fitch and Company joined the Unlisted Securities Market in 1972 and graduated to a full listing two years later. Today the company believes it can operate internationally

without offices in Europe, but in the late 1970s and early 1980s invested substantial amounts of time and money unsuccessfully trying to establish offices in Spain and France, as well as in the Middle East. "It was a different attitude at the time and I didn't know any better," says Fitch.

Nevertheless, Fitch R-S has provided the City with a sustained growth in working and turnover. Its half-year figures in September 1988 reflected the contribution made by Gordon Benoy with a £7.3m turnover and pre-tax profits of £1.5m. This represents a profit margin of 19.9 per cent, its greatest since 1982.

In common with other shares in the sector, Fitch R-S have taken a severe turn-around recently and, in common with most chairmen, Fitch believes that his shares are undervalued.

After years of buoyant growth from retail design, Fitch is now entering more competitive conditions. The uncertain outlook for consumer spending, combined with intense pressure on retail profits, could force UK retailers to reduce design budgets this year. Fitch, together with the other UK retail designers,

has not been easy for Fitch R-S. In 1988 architecture and interior design accounted for 64 per cent of its turnover and a key priority for the company is to establish itself as a leader in the four fields it has defined.

"Major retailers like Sir Ralph Halpern, who have spent years building their brands into pre-eminent positions, will not allow that to drift away," says Fitch. "I don't think there is any evidence to say that they will not continue with their developments. What may well happen is that they look for people who can offer added value — the comfort of experience, research and information."

He points to the scale and changing nature of the projects on which Fitch R-S is working, from bowling alleys to £1m sq ft shopping centres which can soak up investments of £400m and take up to five years to complete. The benefit of a multidisciplinary design company like Fitch R-S is that it can take a shopping centre project right through from conception to completion by calling on its graphics, research, architectural and interior design disciplines.

But breaking into new areas of design, such as products and



Fitch: stalking?

pany's business.

Given Fitch's new-found acquisitive streak, City analysts are speculating that Fitch R-S is stalking some companies in this area. Alternatively, Fitch could surround himself with marketing men and multiple screen slide shows. But that is not his style.

Rufus Ollins

PROFILE: PENTAGRAM

Roots remain close to the surface

THE PARTNERS in Pentagram's West London office give the impression that they are paid for what they like doing best. It is design itself that interests them, not the business of running and developing a company. Unlike contemporaries such as Fitch and Michael Peters, their 1970s roots are never far from the surface.

Conventional marketing techniques, for example, are frowned on. Instead of investing in marketing executives and advertising budgets, Pentagram publishes a series of quirky and beautifully produced pamphlets called The Pentagram Papers, prints a gift book each Christmas and takes on high profile but unprofitable pieces of business such as the re-design of book jackets for Faber and Faber.

"We don't make money doing Faber and Faber," says one of the partners, John McConnell. "It's just an incredible delight which we have for the hell of it. Of course it's a perfect showcase and it could be argued it's what we do instead of having a salesforce."

It has proved a very successful formula. With a staff of 120 and offices in London, New York and San Francisco, the privately-owned Pentagram claims more than 200 clients and adds to a turnover of \$1m for its last trading year. Profits it will not reveal.

There are 18 mini profit centres within the organisation, each run by a shareholding designer. Since its formation in

1972, Pentagram has operated on the principle that a design guru leads his own small team of disciples — whether it be Kenneth Grange shaping the look of everyday products from the Kenwood Chef to the 125-high speed train, or David Hillman transforming the look of magazines and newspapers.

"The Achilles' heel is that you have 18 people all rushing to the grave at the same rate and, while of course they are the drivers, that is a weakness," says McConnell. None of the employees at Pentagram has ever been made a partner. In 1987 the company changed its structure for the first time in its history, by introducing associates who run their own jobs without sharing in the company profits.

This first step towards a more traditional structure took place not just because of the company's growth (it has doubled in size every three years) but because of the difficulty of finding new partners.

The company began with five ("The Crosby" Alan Fletcher, Colin Forbes, Mervyn Kurlansky and Kenneth Grange) and although it now has 18, there have been no additions to the UK set-up since Colin Forbes moved to the US eight years ago.

In addition to the four original founders who have stayed in the UK are McConnell and Hillman. The six partners who now work out of the London office have each built formidable reputations for themselves in the world of design and say

they would only consider inviting creatives of an equal status to trade under the Pentagram name.

The newest recruit, Hillman, arrived 11 years ago. He had already worked as an art director on Nova magazine, set up his own practice and designed the daily French newspaper, Le Matin de Paris.

He is currently working on the design of four European publications and his influence in Britain can be seen in the look of the New Statesman and Society and the radical shake-up of The Guardian.

McConnell came to Pentagram very soon after the company was formed, having completed the much admired art nouveau identity for Biba, the fashionable 1960s boutique. He has since gone on to carry out corporate identities and massive packaging programmes for companies including Lucas Industries, the London Docklands Development Corporation and Boots.

Measures Crosby, Fletcher, Kurlansky and Grange are just as accomplished. Grange, for example, through his work for British Rail, Kenwood, Venner and Parker, has established himself as Britain's most successful product designer. Today he generates an increasing amount of work from Japan, from a gas heater for the Osaka Gas Company to car wheels for the Nippon Metal Company.

Recognising that they have to find new areas for growth, the UK partners are constantly

looking for new blood of the right calibre, but catching the elite before it becomes locked in somewhere else has proved a problem. Meanwhile, Pentagram's founding architect, Colin Forbes, has been finding it less difficult in the US. Since his arrival in 1980, Forbes has built up the New York business to the extent that with its four partners it is now said to contribute as much to Pentagram's profits as the London office.

The three-year-old West Coast office is smaller and represents another break with the Pentagram tradition since its three partners were taken on simultaneously. In both New York and San Francisco the majority of the work consists of annual report and brochure design.

Although the mix is more varied in the UK overall, 10 of the 18 Pentagram partners specialise in graphics. Business is buoyant, despite the growing number of competitors picking up prestigious pieces of busi-

ness. Pentagram could even be said to be losing out in some areas, but McConnell remains sanguine about the future. "There is still an enormous amount of the type of business we are interested in, where we don't have suddenly to pretend to be something which we are not," he says. "It may be twice but to enjoy what we do is still the major aim in the way we run our business."

Rufus Ollins



Pentagram partners. Left to right, top row: Alan Fletcher, Neil Shakesley. Middle row: Theo Crosby, John McConnell, Kit Hinrichs, Linda Hinrichs, David Hillman, Peter Harrison. Front row: Colin Forbes, Mervyn Kurlansky, Kenneth Grange. (Not pictured: Elan Menasse, Woody Pirle)

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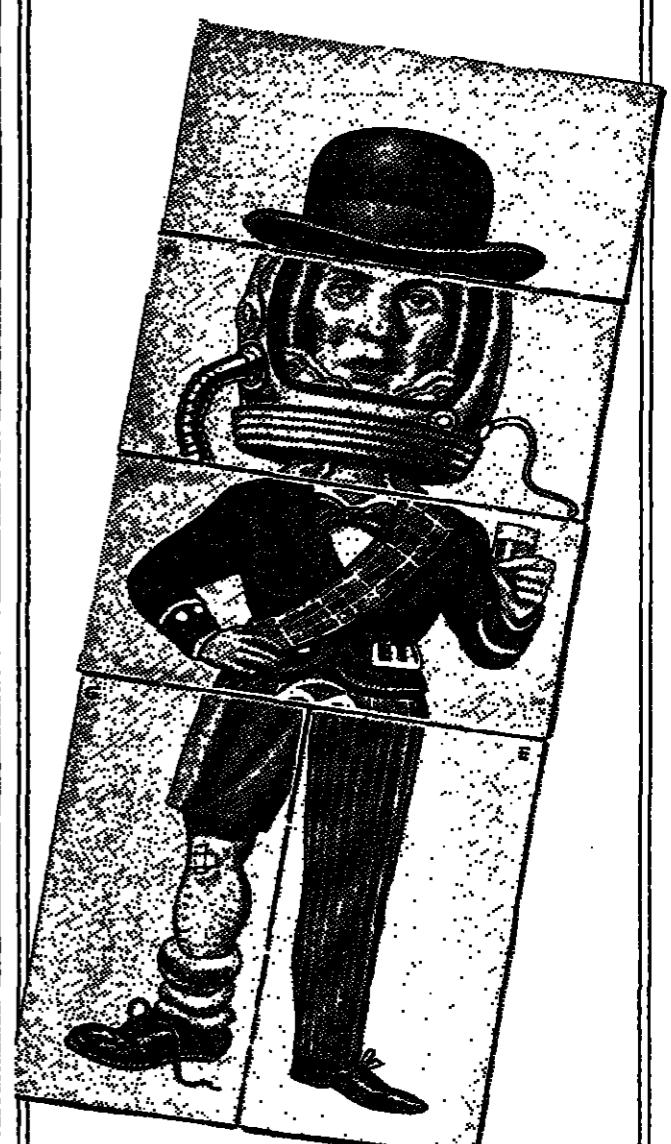
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DESIGN 6

Alice Rawsthorn provides a guide to who's who

The top ten international design networks

1. WPP Group
£57.5m fee income
860 employees
Subsidiary of WPP Group (UK)

Headquarters: London
Since Martin Sorrell took control in 1985, WPP has become the world's biggest design group by buying a succession of design and consultancies in the US and the UK. In contrast to Landor and Siegel & Gale, WPP favours allowing its businesses to operate autonomously within their markets, rather than welding them into a homogenous global network.

2. Landor Associates
£28.2m fee income
500 employees
US private company
Headquarters: San Francisco
Despite the flurry of corporate activity that has swept through the industry in recent years, Landor is still the only truly global consultancy. Landor has expanded rapidly from its original base of a ferry in San Francisco harbour to

open offices all over the world. It has, however, revised and restructured its network over the years.

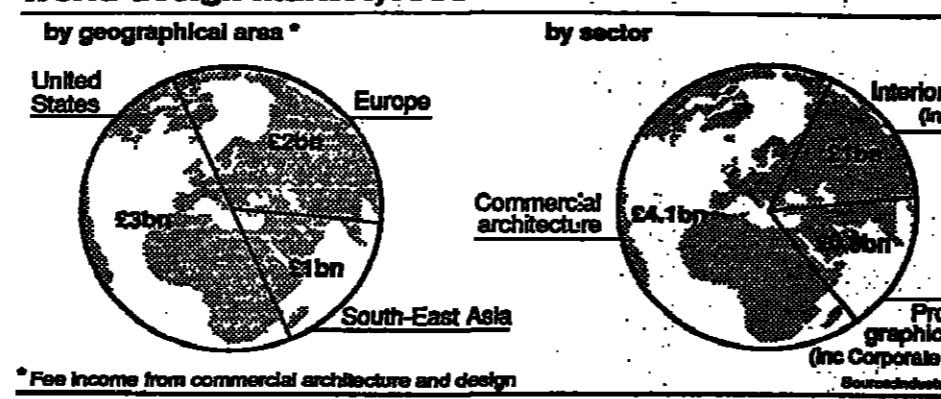
3. Michael Peters Group

£22.5m fee income
720 employees
UK public company
Headquarters: London
Since going public five years ago, Michael Peters has combined international expansion with diversification into new disciplines to augment its traditional business as the UK's largest packaging designer. It has, however, encountered problems with Hamblett Terrell, the US retail designer and its most ambitious acquisition to date.

4. Addison Consultancy

£20m fee income
300 employees
UK public company
Headquarters: London

World design market, 1988



* Fee income from commercial architecture and design

Addison is the product of a series of mergers and acquisitions over the years. Through Albed International Designers it was one of the pioneers of corporate identity in the UK, but it has since suffered from financial problems. Despite successive rounds of restructuring it is still hounded by bid speculation.

5. Fitch-RS
£17.4m fee income
500 employees
UK public company
Headquarters: London
Having made its name within retail design in the UK, Fitch is pursuing a strategy of broadening the base of its business both by international expansion and by moving into

new disciplines. The acquisition of Richardson Smith last summer furnished it with a North American base and with expertise in product design.

6. Siegel & Gale

£16.5m fee income
220 employees
Subsidiary of Saatchi &

Saatchi (UK)
Headquarters: New York
Saatchi and Saatchi, the aggressive marketing services group, acquired Siegel & Gale, a leading US corporate identity specialists, in 1985 to act as the base for a global design network to complement its other activities. S&G is now expanding at a frenetic pace in an attempt to rival Landor by assembling a world-wide network.

7. Pentagram

£15.8m fee income
120 employees
UK private company
Headquarters: London

Pentagram is a law unto itself in the design world. It is probably the only truly multi-disciplinary international consultancy, which services clients worldwide from its offices in the UK and US. Its reputation for quality and creativity

ensures its involvement in many of the most prestigious international projects.

8. Conran Design Group

£15.5m fee income
240 employees
Subsidiary of Storehouse (UK)

Headquarters: London
Although Conran is still inextricably linked with Storehouse, the UK retailing group controlled by Sir Terence Conran, a large tranche of its work is for external clients. It has had a Paris office for several years and has just expanded in Asia-Pacific by opening a new office in Hong Kong.

9. Wolff Olins

£7.8m fee income
180 employees
UK private company
Headquarters: London

Wolff Olins is established as Europe's leading corporate identity consultancy with projects for multinational chemical companies like ICI of the UK and Akzo of the Netherlands. It has also led the expansion of US consultancies in the public sector through its work for government departments and for the Metropolitan Police.

10. Minale Tattersfield

£5m fee income
55 employees
UK private company
Headquarters: London

Minale Tattersfield made its name in the UK as one of the liveliest and most creative corporate identity specialists but is involved in other areas such as packaging. It has opened offices across Europe and Asia-Pacific. Last autumn it moved into Australia by acquiring an interest in Bryce Design.

YOUNG TALENT

Next for the top

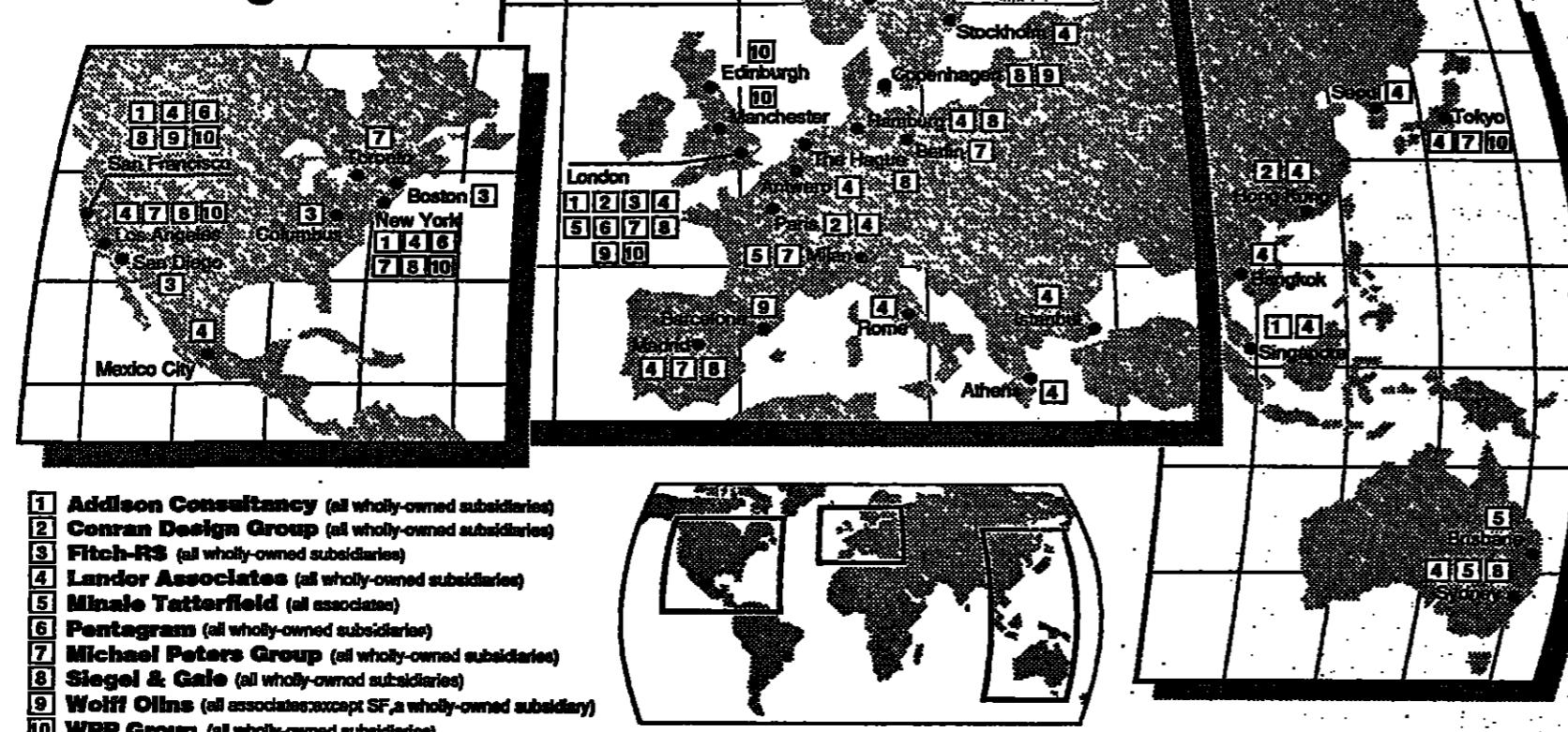
It executed its first US project by designing the Paul Harris women's wear stores. It has since worked for Valentino, the Italian fashion designer, and Maxx, the Dutch fashion group.

Davies is only one of a number of young designers to have made their mark in recent years. Neville Brody has emerged as one of the world's most influential graphic designers after his early work for the Face magazine in London.

Ettore Sottsass has moved from his base in furniture design in Milan to take on other projects such as the European stores for Esprit, the US fashion company. Philippe Starck, meanwhile, who made his name in France as a furniture designer, is now one of the best known international interior designers after his work for Cafè Costes in Paris and the Royalton Hotel in New York.

Alice Rawsthorn

The Design World



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